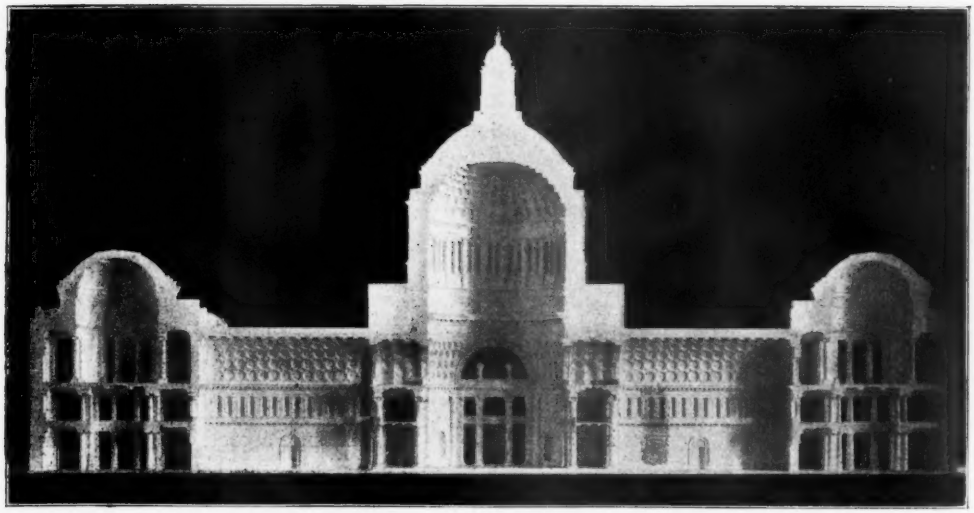

Fig. 1.—Brooklyn Institute of Arts and Sciences: Model Section.
(McKim, Mead, & White, architects.)

AMERICAN MUSEUM BUILDINGS.

By Cecil Claude Brewer [*F.*], Pugin Student 1896, Godwin Bursar 1911.

Read before the Royal Institute of British Architects, Monday, 7th April 1913.

Introduction.

My task to-night is one of selection. To give even the shortest description of the fifty American museums visited upon my Godwin Bursary tour within the limits of a reasonably humane paper would result in a mere unprofitable catalogue; but as my full report is to be accorded the honour of a burial-place in our Library I intend merely to select a few typical buildings, and, omitting as far as possible the more technical details, to give my impressions of them, discussing chiefly the effect they produce upon the ordinary visitor. I make this selection intentionally, for it is surely the most important class of museum users; the especially interested visitor and the student will find what they are seeking in any museum, while the general public needs very careful handling if it is to use museums otherwise than as mere shelters from the weather or playgrounds for its young.

I shall not attempt to enter upon those mathematical theories as to lighting which have been so fully discussed before in these rooms and in our Journal; but rather to tell you, with the help of my slides, which type of room, plan, or lighting seemed to me best, and why. Dimensions, notes as to heating, ventilation, and general management, as well as many drawings and photographs which it is impossible to show here, these I must leave to the Library student, and if they prove useful to even a very few in after years I shall be satisfied.

While it is probable that more money and more enthusiasm have been given during the last decade to the building of museums in America than in any other country, a tour of inspection of the most important of these buildings did not show, as I had hoped, that the Americans have as yet revolutionised museum and gallery planning, as they undoubtedly have the planning and arrangement of libraries. It is, of course, a far more complex and difficult problem to house, for display or study purposes, the multitude of objects which are, or may be, placed in museums—objects of every conceivable size and shape, requiring individual care and treatment for

exhibition or storage—than it is to house books which vary only from folio to duodecimo and require only to be readily accessible for readers, who in their turn must be provided with reading space; yet I had hoped to find that the museum and gallery buildings of America would show definite characteristics which would differentiate them from their European prototypes.

That this is not so is probably due to the amazing rate at which American museums are growing, and to the fierce and ever-increasing competition for exhibits, fostered by the extraordinary liberality of the American citizens which is manifesting itself in the sale-rooms of the world, and by almost daily gifts or bequests to museums of money or of objects.

This may sound paradoxical, but it seems as if the directors and curators are so occupied receiving and purchasing, arranging for purchases, or sending out expeditions, that they have little time or energy left to study their needs in the matter of buildings, or to specify these needs clearly to the architects, evolving with them a type of building to meet their requirements, in time probably showing other and older countries new methods of arranging and displaying public collections. It is not that the American museum buildings are in any way inferior to European, but there exists on both sides of the Atlantic a good deal of not unnatural dissatisfaction among museum directors at the existing buildings, and this dissatisfaction shows itself largely in indiscriminate abuse of architects, whom they are apt to consider merely as hindrances to museum progress, only rendered necessary by the demand of the public that the buildings shall be something more than warehouses, and of the more enlightened Americans that the public buildings shall be monumental and dignified; which demand is being met, if not by a national style, at least by a certain austerity and simplicity, and is leading to a far greater interest in civic buildings and planning than exists in Great Britain. With all humility, as one of these necessary hindrances, I would ask if a speedier way to the ideal museum buildings than abuse of the architects might not be found in a careful study of existing buildings and of the weary crowds that pass through them, with an effort to discover which rooms seem the most attractive, and why? Which method of lighting or arrangement causes the crowd to linger? Whether objects on which a reasonable amount of light *falls* are not more easily seen than those which are silhouetted against a dazzlingly bright window? Whether a room from 45 to 60 feet wide, lighted by enormous windows on each side, with a central gangway between an endless succession of cases at right angles to the passer, showing him nothing but reflections of these windows, while the end of the vista is another expanse of glass, is really the best that can be devised for museum purposes?

If these are the ideals of museum men, architects have provided what is wanted, and in many cases the authorities are perfectly satisfied, only stipulating for uninterrupted floor space, plenty of light, and an absence of ornament. I am well aware that these are problems to which all the best museum directors in America, as in Europe, have given, and are giving, great attention; but there are others who seem so wrapped up in classification, the elaboration of labels, the arrangement of exhibits in cases, and of cases by series and groups, that they give little thought to the effect of their collections upon that great mass of the public which scarcely pauses to read a label, or on the small number of intelligent people who, without special knowledge of any particular subject, come with every wish to be interested and instructed, and usually leave sadder and more weary, if no wiser, men.

If real progress is to be made towards the ideal museum building, as yet far to seek in any country, it must be by intelligent co-operation of museum directors with architects, not by stipulating rigorously to the decimal point the exact area of window to floor space in every room; not by insisting on the omission of every moulding and of every feature which could possibly be called ornament, leaving the rooms with the untidy finish of a factory, while allowing as a sop to the feelings of the harried architect a pompous display of ornament in the entrance

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hall ; but by a certain sacrifice by both director and architect, by study of existing buildings, and most of all, possibly, by the exercise of imagination and tolerance by both. I cannot believe that America, with its amazing faculty of knowing what it wants, and getting it, a faculty which strikes the Englishman as, perhaps, almost the national characteristic, will long remain satisfied with the ideals and achievements of Europe in museum buildings, any more than it rested content with the almost mediæval ideals of Europe in the matter of libraries, and when the directors have taken the initial steps of finding out what they want, there can be little doubt that the architects of the country which has produced the " skyscraper " will give it them.

I am dividing museums roughly into three classes : General, Art, and Science.

GENERAL MUSEUMS.

Those in this first class are luckily few. I say luckily because, except in the case of small or purely local museums, their catholicity is usually their undoing. It is difficult enough to keep any museum within bounds, and in those which place no limits on the class of their exhibits not only is this difficulty increased, but it is almost impossible to provide suitable buildings for the heterogeneous collections which may at any moment be swollen by the acquisition of whales or wineglasses, mining machinery or miniatures ; further, such museums tend to develop very lopsidedly according to the taste and attainments of the director in charge of them.

I only intend to mention three of these general museums.

Brooklyn Institute of Arts and Sciences (McKim, Mead & White, architects).

So small a section of this museum is completed that it is difficult to form any estimate of the final result. Only one flank of the great quadrangular plan was in use at the time of my visit, and this entailed the crowding of departments and the use of rooms for purposes for which they were not designed. The plan, by McKim, Mead & White, for the whole scheme shows a magnificent architectural lay-out, but there is not much evidence that it has been studied with a view to special museum requirements. The whole area of 560 feet square is shown, covered with building, the four courts in the angles, 96 feet square, having glass roofs, the exterior and axial blocks carried up three floors ; the heights of the rooms are : First floor, 29 feet ; second floor, 22 feet ; and 20 feet to the lay-lights on the top floor. The exterior, so far as it may yet be judged, is not in the architects' happiest manner, being somewhat cold and lifeless, and executed in a stone of a very dull, even grey colour, much resembling Portland cement.

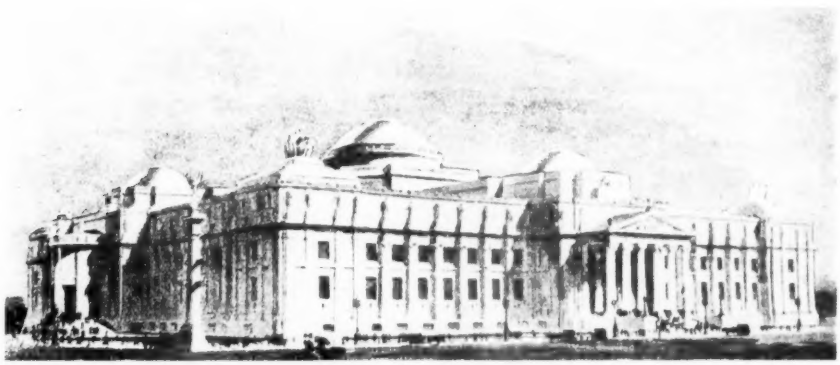

Fig. 2. Brooklyn Institute of Arts and Sciences: Museum Building

The museum has many of the faults of a general museum of arts and sciences, and especially of one in charge of a science director. As an instance, I would quote the allotting of a large gallery in an overcrowded museum to Dr. Goodyear's photographs showing his theories on architectural refinements. These photographs, admirable in themselves, could surely be better studied by earnest students of "architectural misfits" on screens in a study room, and space might thus be set free for the wonderful collection of Sargent water-colours, which were crowded on to a badly lighted staircase landing, and hung, without any taste or discrimination, against cacao-coloured walls. Again, Tissot's small drawings of the Life of Christ, 350 in number, are *all* displayed on screens in a room 43 feet square, and Verestchagin's huge and overpowering crucifixion, measuring 10 feet by 12 feet, is hung next to pictures only 12 inches square.

The main picture galleries on the top floor are 38 feet by 120 feet, and although when the museum is enlarged and smaller galleries provided in addition they may serve admirably for larger pictures, their use, when I was there, showed the danger of such large rooms. Space being required for the temporary exhibition of a collection of large arctic landscapes of a very pronounced type, these were placed on screens in the centre of the room, thus completely annihilating for the time being the permanent collection on the walls. If the big rooms had been subdivided in length, more wall space would have been provided, and a compartment left free for temporary exhibitions of this sort.

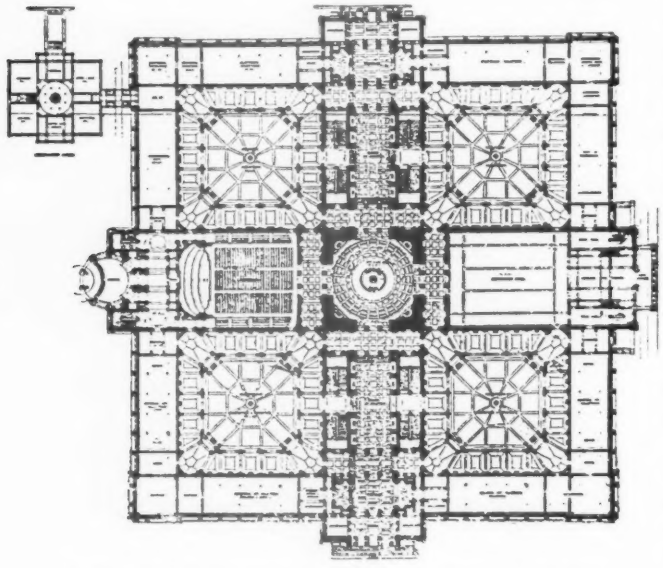

Fig. 3.—Brooklyn Institute of Arts and Sciences: First Floor.

The lighting of these rooms is, however, interesting, namely, by long lay-lights on either side and a solid ceiling in the centre; this seems fairly successful, but, architecturally, the effect is very ugly. At present the dignity of the building is much damaged by the use of a small basement entrance, the hall proper being, I presume, too valuable as exhibition space.

Some of the lower long galleries are at present lighted on both sides, windows having been cut in the court side, which will ultimately be filled up, and it was instructive to compare these rooms with those lighted from the one side only; the latter seemed better lit and more comfortable.

Mention should be made of the Japanese Room in the basement, arranged by Mr. Culin. It is entered down steps at both ends, which seems (as in the case of the Halicarnassus Room at the British Museum) to lend dignity and interest; the light is by windows from both sides, screened by Japanese paper. The room is decorated in black and gold, and a certain stylistic effect is very judiciously introduced into the room without being carried too far. The arrangement of the exhibits in the cases is most admirable, although the effect is somewhat marred

by the cases having, by some mistake, been made 14 feet high. It may be added that Mr. Culin is an advocate of subdued lighting, and certainly in this case he has produced a room the memory of which remains as an interest in a somewhat characterless museum.

The sectional view on the main axis, taken from a model (fig. 1), promises that if and when this comes to be completed a very fine architectural effect will be achieved, and that the lighting of this portion will be most interesting and varied.

THE CARNEGIE INSTITUTE, PITTSBURG (Alden & Harlow, Pittsburg, architects).

This institution might fittingly be termed the world's most magnificent department-store of culture.

Its departments comprise: (1) an auditorium for music, with very large and sumptuous foyer; (2) a library; (3) a museum; (4) an art gallery. Enormous sums have been lavished on somewhat ostentatious display, the whole having, it is proudly said, cost £1,200,000.

The library and auditorium were first built, and the museum was then located with the library, but in 1907 large additions were made for the museum, and the whole plan is rather amorphous, and the building, which measures 400 feet by 600 feet, the museum occupying rather more than half of that area, is sadly lacking in backbone.

The museum entrance balances that to the auditorium, but the staircase of the former takes the place of the fine foyer of the latter and blocks the passageway to the galleries. The central entrance on the axial line of the gallery of architecture does not seem to be used, although it would provide a more dignified approach to the museum.

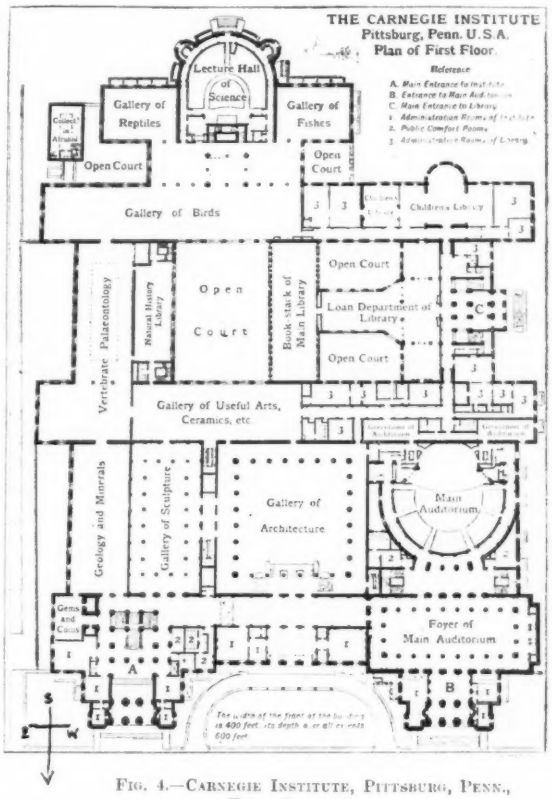

FIG. 4.—CARNEGIE INSTITUTE, PITTSBURG, PENN., FIRST FLOOR PLAN.
(Alden & Harlow, architects.)

This great gallery of architecture (126 feet square) suffers from an excess of the art which it was built to display. It is surrounded by a gallery supported on classic columns, and seeing that it is filled with very large architectural casts, many of them of the classic orders, there is a confusion between the exhibits and the architecture of the hall itself. There can be no doubt that such halls cannot be made too simple. It is obviously a mistake to use quasi-classic columns as a background to casts of the antique examples, and in this case the order in the hall is only 18 inches less high than that of the Mausoleum of Halicarnassus which is amongst those displayed against it, while such an exhibit as the entire western portals of St. Gilles, Gard, France, would have had a far better setting against a plain wall surface. The two-floored peristyle hall of sculpture is much

more successful, and the exhibits look well against the background of white marble columns and grey-green walls.

The science rooms are chiefly 48 feet wide, those on the ground floor only 15 feet 6 inches high, with beams 2 feet below this, having windows reaching from floor to ceiling on one side only. The lighting is, however, preferable to the similar halls having windows on both sides, but obviously the rooms would have gained enormously had they been another 5 or 6 feet high, and the windows kept up from the floor. The lack of coherent plan in this portion of the museum is very marked, and some of the rooms, such as the gallery of birds, are of awkward shape and ill-adapted to their use. The picture galleries on the top floor vary in size from 62 feet by 130 feet to 24 feet by 72 feet, as if to show the extremes of width that such rooms can be made.

The large room is in its way very successful; its great width and comparative lowness have a very spacious effect, and at the time of my visit a most excellent temporary exhibition of modern pictures was admirably hung in it, on one line only with ample space between the pictures—truly an object-lesson to our own Academy in this matter.

The lighting is by lay-light over almost the whole of the vast area, and, as this lay-light was not only obscured, but very dirty and almost entirely covered with blinds, the glare was not excessive; but, even then, I noted that the light was amply strong enough in a very black thunderstorm, and preferable to the conditions in bright sunlight. The cream-coloured butter-cloth stretched over the grey or green walls of these rooms was one of the most successful backgrounds for modern pictures that I have seen.

The basement contains large storage rooms, workshops and service court, a large art-jury room, engine rooms, and the ventilation plant, and is connected with the upper floors by a lift with a cage measuring 12 feet by 16 feet.

On the third floor are laboratories and workrooms in connection with the museum, but the provision in this respect and for reserve is not very large, though space is being economised effectively by fitting all these rooms with double-deck cases similar to the modern library stacks; this seemed an arrangement well worthy of imitation, for, apart from the saving of space, many more specimens can, in this way, be kept close to and under the charge of the curator.

There is an excellent library on the ground floor for the use of the museum, independently of the main library.

PHILADELPHIA: THE FREE MUSEUM OF SCIENCE AND ART, UNIVERSITY OF PENNSYLVANIA (Wilson Eyre, Cope & Stewardson, and Frank Miles Day & Bros., joint architects).

This museum, although attached and belonging to the University, is in every sense of the word public, and will in time become the great general museum of Philadelphia. At present its collections are chiefly archæological and palæontological. The ground plan for the completed building is interesting architecturally, though, as only about one-sixth of the whole is built, it is difficult to form any idea of its success as a museum. The plan, however, offers very fine opportunities for internal effect, and the range of central galleries should be very stately.

The general lay-out is similar to the Boston Fine Arts building, and one is inclined to think that the circuit of the whole museum will be difficult to follow. There seem many possibilities of short-circuiting, no doubt intentional, the idea being to enable any department to be visited by itself, and, naturally, there must be the attendant danger to the casual visitor of missing sections entirely. Again, many of the vistas on the finished plan terminate in windows, and almost every gallery is lighted on two sides.

The portion of the building already in use has a charming brick exterior, although the North Italian-Gothic style adopted does not lend itself to a building requiring special light; the

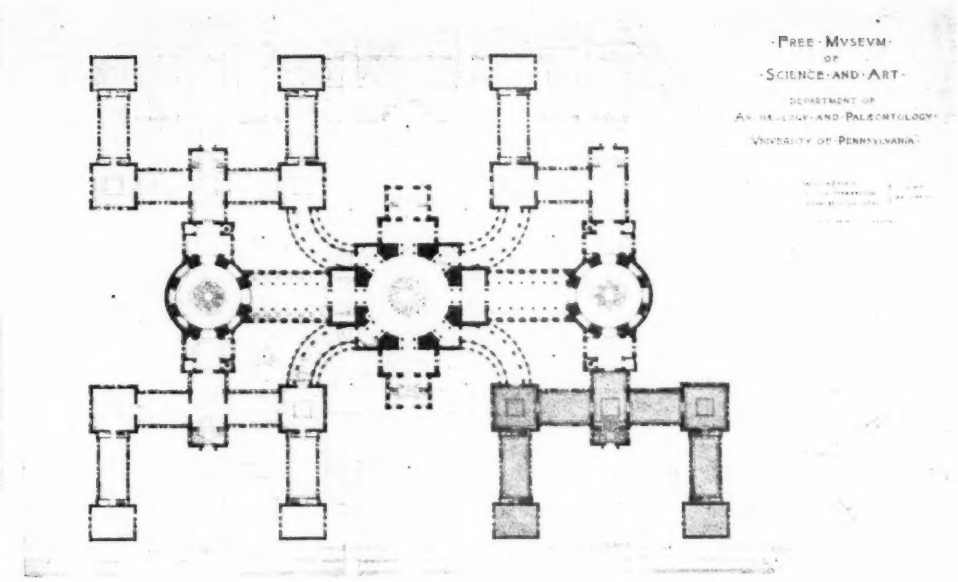

FIG. 5.—FREE MUSEUM, PENNSYLVANIA UNIVERSITY: GROUND PLAN. (Shaded portion indicates part constructed.)

FIG. 6.—FREE MUSEUM OF SCIENCE AND ART, PENNSYLVANIA UNIVERSITY, PHILADELPHIA.
(Wilson Eyre, Cope & Stewardson, and Frank Miles Day & Bros., architects.)

materials, rough brick with very wide joints and marble, are cleverly handled, and the formal garden in the entrance court is a most restful feature.

The effect of the whole is much spoilt by the great door not being used; this serious fault seems common in American museums—certainly the use of the small door under the entrance steps is, in this case, most undignified; but as the great doors open directly on to the staircase landing, there is no room for the checking, umbrellas, &c., at this point.

The evils of cross-lighting are much felt in the present galleries, and the director informed me that alterations to the plans of the subsequent wings are contemplated. The ground floor is devoted to exhibition galleries, with library and lecture theatre at the extremities of the wings, running up into the first floor. The ground floor galleries, in the wings, being 30 feet wide and only 13 feet high, with circular-headed windows on each side, are most unfortunately lighted, and throughout the lowness of the rooms and the lighting, largely the result of the style of architecture, give much ground for criticism; the grey-green colour adopted for the ceilings does not help in these respects.

The central part of the first floor is occupied by exhibition galleries, the wings by administration offices, the basement being devoted to workshops, &c. Complaints are made that the basement is cut up into small rooms; certainly it seems wise to leave the basements of museum buildings as far as possible without partitions, so that space may be allotted to different objects as required.

Little can be said as to the arrangement of exhibits, as departments are at present so crowded, and the lighting renders the placing of exhibits difficult. Altogether it would seem as if the building had been designed from outside, certainly a delightful piece of work.

ART MUSEUMS.

Turning now to the Art section: I found few general points of difference between the American buildings and those in Europe, excepting that the museums and picture galleries are more often united in one building than with us, and in the picture galleries themselves the lighting, which is almost universally from the top, is very generally by sky-lights with a flat lay or ceiling light extending over almost the whole of the room. There are practically no lantern or monitor lighted galleries, and very few of the curved ceilings which have come so much into vogue in England. Double glazing with an attic space is held to be essential on account of the climate, and when one finds directors who admit to endeavouring to maintain a temperature of 70° in their galleries, and more often attaining 75° or 80°, one sees that such achievements would be impossible with a single skylight in the American winters.

Fine Arts Museum, Boston.

The new building in use at the time of my visit was only the first portion of a very large scheme, so that it was impossible to form a complete judgment, but the story of its designing and building is little short of pathetic. It is probable that more study and more care were given to it than to the building of any other museum in the world. Seven years elapsed between the inception of the idea of a new museum and the laying of the first stone; these years were spent in earnest study of requirements and of existing buildings in Europe and America, and the four volumes of reports issued by the Travelling Commission remain one of the most valuable pieces of museum literature. Two years were spent in studying lighting problems in an experimental building purposely built. A fifth volume of the Report was then issued summing up the whole work and containing sketch-plans for the new building by one of the Commission architects, Mr. Clipston Sturgis. This volume seems not to have been widely circulated and a few copies only are in existence; one is reported to be in the British Museum Library.

Before the plans were decided upon there was a change in the directorate of the museum, and an architect who had till then taken no part in the preliminary study was appointed with three consultants to assist him, two of whom had formed part of the original Commission. The working drawings bear the name of all four architects. The directors and curators were also consulted on the minutest details throughout, so that the result should embody their ideas to the utmost.

It is instructive to compare the resultant building with McKim's wonderful Boston Library, in the erection of which the architect was almost dictator. The latter may have faults as a library, and I am told does not meet with the entire approval of modern librarians, but it remains a building which must inspire the least imaginative of the public with admiration, and is

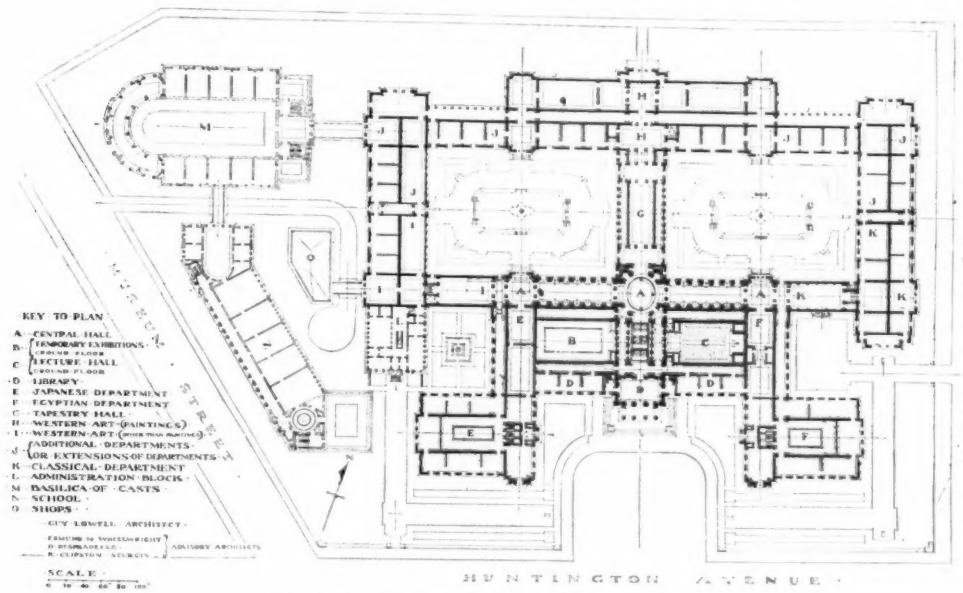

Fig. 7.—Museum of Fine Arts, Boston, Mass.: Plan

not only a delight to all students of modern architecture, but a generous educational influence within and without.

The exterior of the museum, on the other hand, leaves only a feeling of awkward frigidity, and probably pleases not even any one of the four architects who had a hand in its building. The interior, in spite of the fact that it was built for the most part to house existing collections (the ideal condition in museum building which was so splendidly taken advantage of by McKim in the Decorative Arts Wing at the Metropolitan Museum), has no dignity or grace, and does not, except in certain rooms, where a stylistic setting has been aimed at, lend charm to its wonderful collections. Simplicity need not entail baldness, and no private collector chooses a warehouse, however amply lit, to display objects of art. It is interesting to compare the quiet dignity of the old British Museum Galleries, with their simple classic detail, with some of the box-like rooms at Boston without so much as cornice or door architrave, and with windows arranged to meet a stipulated requirement of the authorities of 18½ per cent. of window to floor area.

Plan, Arrangement, Lighting, &c.—The scheme of the museum is to subdivide their visitors and exhibits into three sections: (1) The general public; (2) Visitors especially interested in

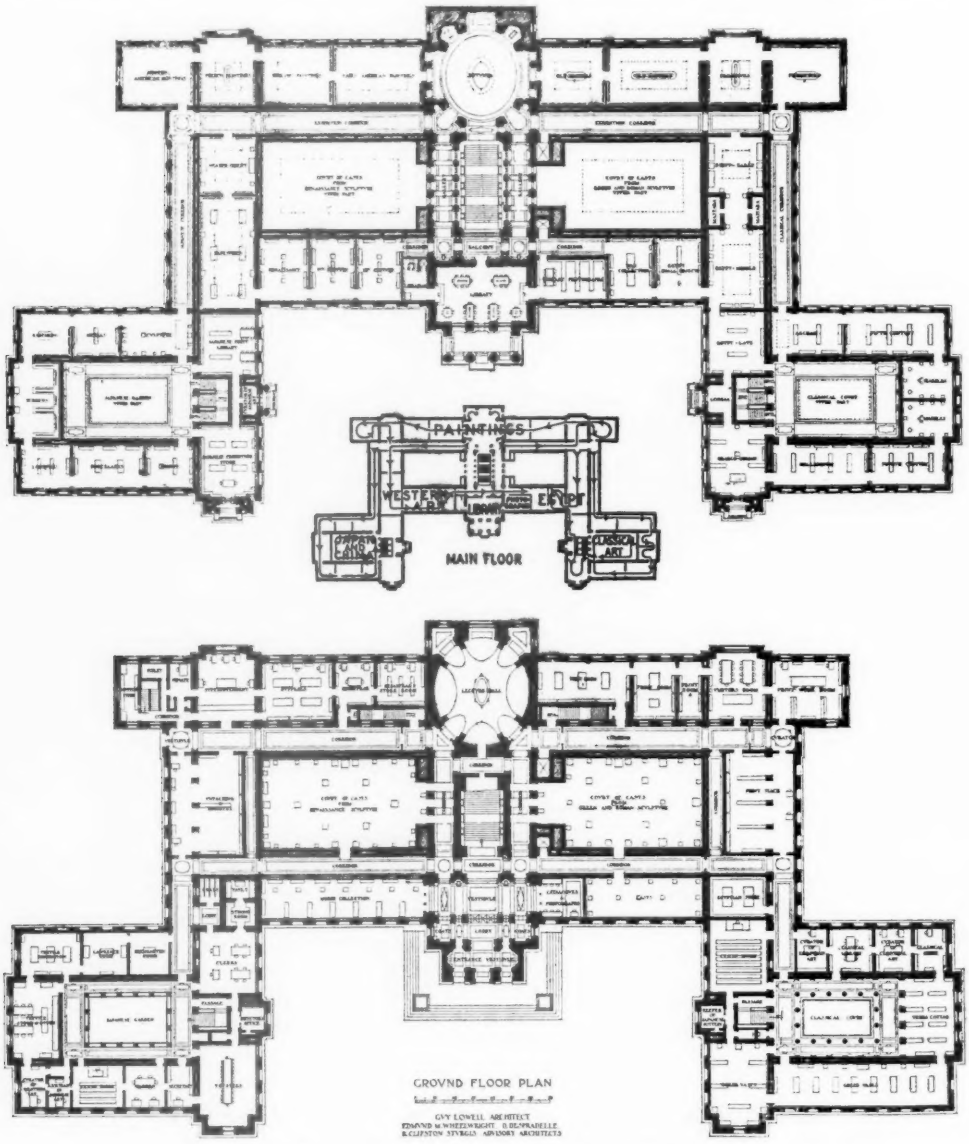

Fig. 8.—Museum of Fine Arts, Boston, Mass.

one subject or group of exhibits, though not actually coming under the head of students; (3) Students of special branches, who may be provided with workrooms and be allowed to handle exhibits. The plan is especially arranged for these three classes, with independent circuits in

each department so arranged that any one section may be reached from the central halls without traversing any other. This arrangement has advantages: it allows a visitor to reach the department he is seeking easily and without the distraction of seeing other exhibits; it ensures, or should, the subdivision of the subjects by necessitating the return to the hall between each department. But at the same time in practice it leads to complication of plan, for the circuits are by no means easy to trace, and it is annoying to find oneself unwillingly visiting rooms a second time. It is, further, quite possible for one on his first visit to miss a whole section of the museum, and although this may be no disadvantage to the weary tourist if he remains in happy ignorance of the omission, it is galling to find when too late that a section which would have greatly interested him has been missed.

The Entrance Hall on the lower floor is small and unimposing, giving no suggestion of the purpose of the building, but no doubt it is large enough for utilitarian purposes, and the checking-counter and photograph and catalogue room are well placed.

The Two Central Courts are occupied by casts, and although these do not here come in direct contact with actual sculpture, yet, in a museum of such importance it seems a pity that it has not yet been possible to carry out the original plan of placing the casts in an entirely separate block. The remainder of the ground floor being occupied by workrooms and rooms for the second class of exhibits is not therefore intended to be seen by the casual visitor.

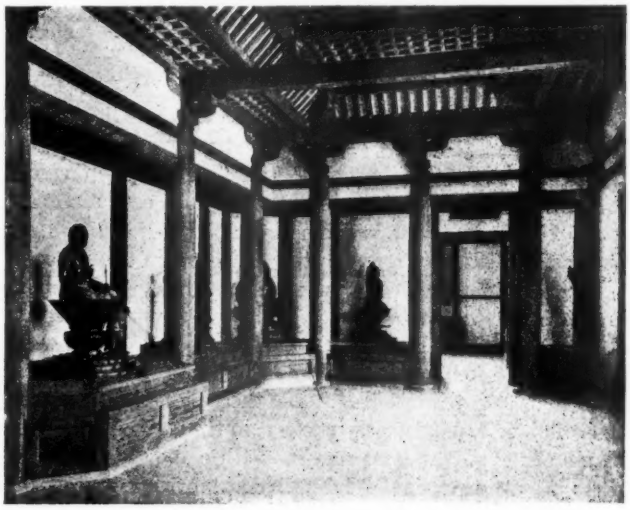

Fig. 9.—Museum of Fine Arts, Boston, Mass.: Buddhist Room.

On the first floor are installed the general collections, the pictures occupying temporarily the north rooms. The top lighting of these is fairly successful, but they were not intended for pictures, so that one must wait till the permanent rooms are complete to see if the very careful study in the experimental galleries has borne fruit and produces, as it should, the finest lighted galleries in the world. But the present rooms are of pleasant size, and although the glare seemed excessive and the light over-strong, yet the American Room, with contemporary Colonial and English furniture, is decidedly one of the most attractive in America.

Mention may be made here of the background colours used in the newer American museums, usually grey or some neutral tint, which is far preferable to the old dingy maroon or the violent primary colours now coming into fashion in England.

The side-lighted picture rooms are exceptionally pleasing, and all the more welcome as this method of lighting is almost entirely neglected in other parts of America. Few of the pictures at Boston are glazed, and the difficulties of lighting are, of course, thus very greatly reduced; one cannot but wish that other galleries could abandon the glass. There are two reasons usually urged for the glazing of pictures: first, the protection it affords from atmospheric as well as from careless or malicious damage; secondly, the glow added to paintings, which is undoubtedly

of great value. A recent outrage in our own country has reminded us that glass is not a complete protection from malicious damage; and, if the air in galleries can by any means be rendered reasonably pure, the other risks might surely be incurred, for it is now in most galleries impossible to see the whole of a large picture at one time, especially if it is dark in tone, and the constant strain of dodging reflections is most fatiguing.

The central corridors on the ground floor are very dark indeed, while the side-lit rooms are most unpleasantly over-lighted in spite of the fact that on the four days on which I visited them, at the end of April, the blinds were continuously drawn, even on the north side. It is, of course, impossible to make comparisons of lighting between England and America, and I have no means of judging what the light may be in winter, though I was told that in fair weather it is as strong as in spring, but during May and June it was very much more intense than even on our brightest days. To eyes accustomed to English lighting almost all the American galleries seemed over-lighted. I imagine that the proportion of 18½ per cent. of window to floor area, so rigorously insisted upon for side-lighted rooms at Boston, would be much more suitable to English conditions; it is a pity therefore to have disfigured the exterior with such large windows, which are continuously kept shaded.

The beautiful Japanese collection is shown in rooms to which some Japanese feeling has been given, and while one is at first inclined to welcome the experiment with delight and rejoice in the exquisite effect produced, especially in the garden court, a little reflection leads one to the conclusion that such stylistic settings must be carefully employed. We should probably all of us admit that it would be impossible to instal a collection of mediæval objects against a modern Gothic background with anything but horrible results; I wished it had been possible to obtain the candid opinion of a cultivated Japanese on these Boston rooms. At the same time, after many weeks spent in visiting museums, one looks back upon this Japanese department as upon an oasis in a desert of glass cases, surely at the best a barbaric method of exhibiting objects of art.

In the Japanese department, even in those rooms which have not a definite background-setting, an effort has been made to design appropriate cases of slightly Oriental character; the result is distinctly interesting, while the very highest praise must be given to the actual arrangement of objects, particularly pottery, in the cases themselves, which is so beautiful that a definite picture of individual cases remains with one. One is the more glad to record this, as in some rooms the arrangement of exhibits does not seem happy. Small objects are dwarfed by large rooms, as in the Classical Court; a beautiful little Rodin is almost lost at the top of the stairs, while in the Egyptian section large statues are cramped into small rooms.

The library, a good room over the entrance, acts as a reading-room and a store chiefly for the folios and photographs. The former are kept flat on iron roller-shelves in oak cases. The librarian's room adjoins, and from it a spiral stair leads to the stack above in attic.

If one is over-critical in judging this museum, which after all is one of the most interesting art museums in America, if not in the world, it is only that, knowing the study and care that had been bestowed upon its building, one had hoped to find the ideal.

The Metropolitan Museum, New York.

This is the largest and most important Art Museum in America, and certainly one of the most interesting to a student of museum architecture, as the buildings are of three dates, and one is delighted to find that the latest addition is probably the most satisfactory museum building on the continent. The old museum dates from 1875–1880, but it is now intended to surround this extremely ugly block entirely with new buildings. Between this old museum and Fifth Avenue is the new entrance block by W. M. Hunt, added in 1902. It is a fine, if somewhat heavy,

classic building in three bays, and the interior of the hall is exceedingly dignified and excellently lighted. It has not the excessive glare so loved by American museum directors, but a mellow light from great clerestory windows, pleasantly diffused and surely quite sufficiently strong for displaying the few pieces of sculpture and tapestry to which its exhibits are confined. On several days in May it appeared that the lighting would have been even more satisfactory if the dome-lights were closed, but I found that two of these were an addition by McKim, the hall having been originally designed and built with one central light only, so it is evident that the museum directors would not have been content with the clerestory lighting alone. However, I do feel sure that the general effect of the hall would be greatly improved if the windows visible under the end gallery were cut off by screens. The emptiness and fine architecture add enormously to the dignity and repose of the museum, and although many protest against the

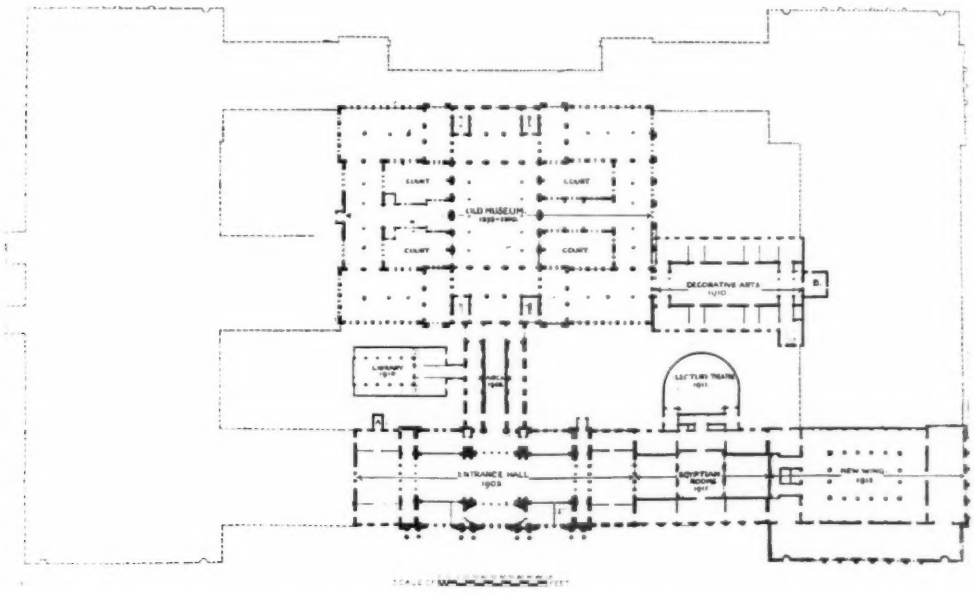

Fig. 10.—Metropolitan Museum, New York City.

waste of space and the subdued lighting, it is surely right that a great and wealthy museum should allow itself the luxury and dignity of such a hall, which is an excellent preface to the beautiful collections to come, or a resting place after a visit.

There is a very good photograph and literature counter off the entrance vestibule; not only is an excellent collection of photographs and all the museum literature shown, but a comfortably furnished room is provided for the use of visitors who wish to select photographs or look through and make notes of the museum publications. This is a feature of many American museums which might well be copied in England, as might also the means that are taken to popularise American museums by periodical literature. Persons interested in the welfare of a museum can become members by paying an annual subscription, which gives them not only the privilege of entry on students' days, but to them the museum bulletin is sent, which contains photographs of the recent acquisitions, critical articles and notes on the museum's progress; in this way a large

number of people are kept in constant touch with the museum and informed of interesting temporary exhibitions.

The plan of the museum with interior open courts, which are not seen or entered by the public, allows the building-out into them of alcove rooms; this is an advantage which is likely to be largely made use of, compensating somewhat for the absence of a central garden court.

The new staircase is fine in plan and general conception, but somewhat clumsy in detail and too ornate for museum purposes.

The original building resembles the old South Kensington Museum and has all its defects; the high top-lighted courts containing architectural and other casts have the effect of dwarfing

Fig. 11.—Metropolitan Museum, New York: Entrance Hall.
(W. M. Hunt, architect.)

the smaller original exhibits, and are much overcrowded. It is difficult to suggest a satisfactory method of exhibiting such large architectural pieces—probably a very large perfectly plain hall with the lightest and simplest iron roof is required, as far as possible detached from the other collections. It seems as if the fine new architectural courts at the Victoria and Albert will scarcely prove high enough or simple enough for the largest objects, and the conflict of the architectural features of the building itself with the exhibits, shows that such halls cannot be too simple; certain it is that the whole scale of many museums is destroyed by such objects; if they are to be preserved and shown, special provision must be made for them.

The models of buildings shown in these halls of casts are somewhat lost; a small-scale

model of Notre Dame, Paris, is not seen to the best advantage at the foot of a full-size cast of the Colleone Statue, and it would be well, in all museums, if models could be shown in a smaller room adjacent to the hall of architectural casts, although of course there are cases, such as the Elgin Room at the British Museum, where the model of the Parthenon is quite rightly placed for reference with the actual exhibits.

The side-lighted rooms in the old building suffer a good deal from cross-lighting, and those lit from one side only from too great a depth, but these, even where the back wall is a little under-lit, seem preferable to rooms of the same width with windows on both sides.

The Picture Galleries are upon the upper floor of the old building, some of them overcrowded and ill-hung, but they are moderately well lighted and free from unpleasant glare. The lay-lights, which are glazed with very much obscured glass, are only from one-half to two-thirds of the area of the rooms and seem preferable to the new type of American ceiling, which is almost entirely of glass. As, however, the skylights are set in one side of the mansard roof, the light is not equally good at all hours of the day, and the rooms can in no way be said to be ideal. The pictures are mostly unglazed.

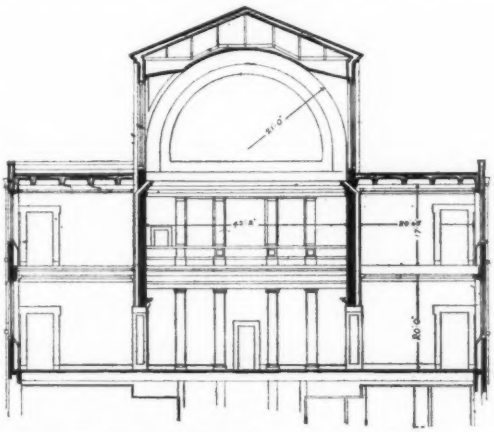

Fig. 12.—Metropolitan Museum of Art: Section through Decorative Wing.

The new wing of Decorative Arts, added by McKim, Mead & White, is altogether admirable. It was built for the Hœntschel Collection, and Mr. McKim using, it is said, the Musée des Arts Décoratifs at the Louvre as his model, obtained a result superior in every way to that original. Indeed, having since seen the Paris building, I am tempted to believe that he merely used it as a label to satisfy the American craving for a prototype.

The wing consists of a large central hall running up through two floors of smaller side-lit rooms. The lighting of this hall, which is 46 feet 3 inches high to the springing of the semicircular vault, and 67 feet 3 inches to the crown, is entirely by lunette clerestory windows, and no doubt the great height and the area of white wall below are largely responsible for the beautiful soft diffused light which floods every part of it.

Objection has been raised to the use of classic columns in a hall for mediæval objects and that there is too much architecture for such a gallery, but I would rather claim that the happy mean between a barn-like barrenness and a stylistic room had been struck. The only other hall that I can think of, where such objects would have been as well shown, is the great Roman Hall at the Cluny Museum—that is to say, under much the same conditions of very high side light.

The fine tapestries are well lighted and have a very decorative effect high up on the side walls, but as no blinds can be fitted to the semicircular windows, it is necessary to draw curtains over the tapestries when the sun is upon them. One would be very interested to see the effect of pictures hung on the lower part of the walls; it is sure that the beautifully diffused light would be admirable, but probably the great height of the room would dwarf pictures of ordinary size; and yet if only this clerestory lighting could be adapted to lower rooms, we should probably arrive somewhere near to the ideal of a perfect picture gallery.

The side rooms are 24 feet wide and 20 feet high, the window heads being right up to the ceiling, the sills 8 feet from the floor. They are admirably proportioned, and their simple

FIG. 13.—METROPOLITAN MUSEUM, NEW YORK: SECOND GOTHIC ROOM.
(McKim, Mead, & White, architects.)

cornices, door architraves and fabric-covered walls, give them just sufficient finish, while every object is well placed, well lighted and grouped by periods, so that there is a fine sense of congruity in each room. One little criticism I would make: the doors on the lower floor, between the hall and the side rooms, seem unnecessary—they occupy good wall space and are apt to lead visitors back into the central hall instead of continuing on the circuit.

The Library, again by McKim, built in 1910 in one of the courts, is a very happy addition. It seems perfectly adapted for its purpose and has dignity and architectural interest; again, the high clerestory light has that restful quality which is so noticeable on coming from other museum rooms.

The heating and ventilation of the Decorative Arts Wing are on an elaborate and very costly Plenum system, the aim (in view of the large amount of valuable woodwork the wing was to contain) being to provide an equable atmosphere entirely independent of the outside air and of the temperature of the other galleries. In May 1911, when I visited the building, the outside temperature stood at 80°; in the other parts of the museum at 76°, and the air was there oppressively close: while the thermometers in the new wing never rose above 66°, and the air seemed fresh. Whatever may be the faults of the system, apart from the cost, which is admittedly great, it is thought to be preferable to the ordinary atmospheric conditions in American museums; certainly the extreme changes of climate and the excessive steam heating have

FIG. 14.—METROPOLITAN MUSEUM: CENTRAL HALL, DECORATIVE ARTS WING.
(McKim, Mead, & White, architects.)

played sad havoc with museum exhibits all over the country. These rooms were decidedly more comfortable and the air fresher than in almost any other museum I visited.

Workshops, Administrative Rooms and Reserve.—While there is no definite reserve section to the museum, the whole of the basement is devoted to workrooms, vast stores, and workshops for every conceivable class of repair, case-making, &c.. There is a large receiving store into which new acquisitions and objects offered for loan or sale are placed. Here every article which passes into the museum stock is at once indelibly labelled, photographed, and card-indexed.

Art Institute of Chicago,* erected 1893 (Shepley, Rutan, & Coolidge, architects).

This building formed part of the World's Fair, the Art Institute paying more than half its cost in order to obtain a permanent, in lieu of a temporary, building. It is situated on the lake front, and comprises not only a picture gallery and general art museum, but an art school, which, with 700 regular day students and a total roll of 2,500, must surely be one of the largest in the world; it occupies not only the whole of the basement, but a range, 675 feet long, of forty-three class and studio rooms to the east of the building, which being sunk below the level of the ground is not visible from the lake front. The main building is a great quadrangle, bisected by the grand staircase, the two courts being filled by the lecture theatre and library.

The plan is interesting owing to the corridor which runs completely round the inside of the exhibition rooms. This is an excellent arrangement for a gallery which holds many temporary exhibitions. The pictures in some of the rooms here are changed as often as thirty times a year, and any gallery can be closed without interfering with any other. In the case of the permanent collections on the ground floor, which is entirely given up to casts of sculpture, the benefit is not so obvious, the corridor giving a double circuit, which is distracting. The treatment of the angles of the corridors is most unhappy. The object was to give vistas into the galleries, and at the same time to obtain wide rooms at the angles; the result is unarchitectural and awkwardly managed.

The lower side-lighted rooms are excellent; cross and end-lighting have been carefully avoided, and the exterior and interior gain enormously from this. These rooms are 38, 34, and 28 feet wide, and about 20 feet high. The 38-feet rooms are a trifle too wide; the 28 feet are as nearly perfect as can be. The windows are 7 feet wide and are spaced at 15-feet centres, and have sills 5 feet 6 inches, and heads 18 feet from the floor. I would ask museum directors to note that the window glazing was originally in one sheet of plate glass, but this was thought to be so ugly from within and without that glazing bars have since been added on the main front.

The Picture Galleries on the first floor are remarkable for their variety in size and in height. Mr. French, who has been Director from the foundation of the museum, is a great advocate of small picture galleries; he claims that they give more wall space, and greater possibilities of subdivision and arrangement, are less tiring to spectators, and that in the case of additions or rehanging a smaller number of pictures need be moved.

The Blackstone Hall of architectural casts is an addition to the original plan, and occupies the whole of the centre of the basement and ground floors at the rear, the ground floor corridor being used as a balcony along one side. A hall 210 feet by 60 feet by 34 feet 6 inches high is thus obtained. Even this is not large nor lofty enough for the largest exhibits, but the lighting, which is chiefly from one side, is altogether admirable. The eastern windows are 7 feet wide, spaced on 15 feet centres, and have sills about 15 feet, and heads about 31 feet from the floor. The western windows are on the balcony only, and are so much blocked by the library and lecture theatre as to be negligible, and yet the hall is one of the best lit that I saw.

The lighting of the picture galleries is by sky- and lay-lights, the latter being almost the whole

* A plan of this museum appears in Mr. Edwin T. Hall's Paper, "Art Museums & Picture Galleries" [Journal R.I.B.A., 13 April 1912.]

size of the room, the coves being in no case more than 2 feet 6 inches wide. The lighting was most variable ; on the day of my visit very thick horizontal blinds above lay-lights were in use ; these fitted badly and there were consequently streaks of very bright light. Both the lights are glazed with rough rolled wired plate glass, but the obscuration did not seem sufficient.

The floors of many of the picture galleries are of almost white terrazzo, and the result on the lighting is very bad. The dark linoleum floors with marble skirtings are in every way better.

The whole institution is a hive of industry, and aims at being the art centre of Western America. The collections are excellent, and the work entailed in the numerous temporary exhibitions must be enormous.

The Corcoran Art Gallery, Washington, D.C. (Ernest Flagg, architect).

The design for this building was selected in competition in 1892, and the building opened in 1894. The whole was the gift of the late W. W. Corcoran " to be used solely for the purposes of encouraging American genius in the production and preservation of works pertaining to the fine

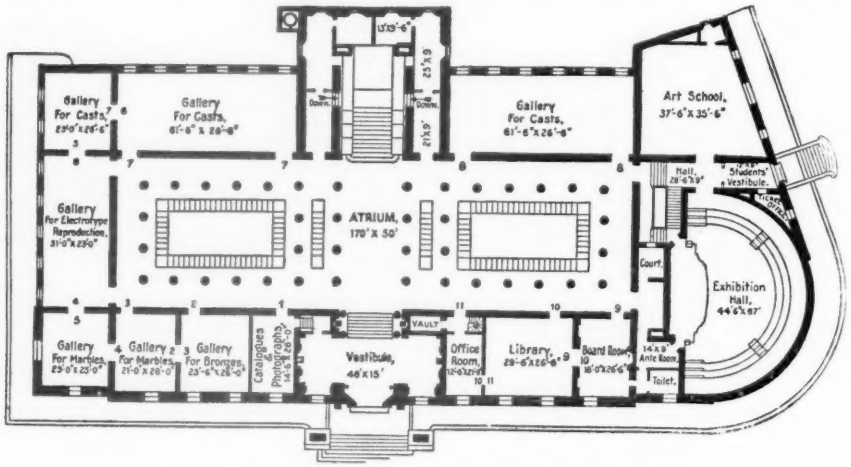

Fig. 15.—The Corcoran Gallery of Art: Plan of First Story.

arts and kindred objects." As will be seen from the plans, one end of the building is devoted to the art school and lecture theatre. The well-designed central atrium is used for casts, which are here displayed to great advantage, and a copy of the Parthenon frieze is fixed all round the ground floor wall.

The small ground floor rooms, 18 feet 6 inches high, are excellently lighted by comparatively small windows, the sills of which are 8 feet 6 inches from the floor, the heads 2 feet from the ceiling.

The staircase is dignified and well proportioned to the size of the building ; the treads are 18 inches, the risers $5\frac{1}{2}$ inches. I was able to see, at the annual prize-giving how admirably such a staircase lends itself to a small ceremony. The landing served as a platform, and the students and public were grouped on the stairs above and below. The effect was most picturesque, and I was told much more successful than when held in the regular lecture theatre.

The top-lighted picture galleries are rather narrow, some only 23 feet wide and 17 feet high, having ceiling entirely of glass. Others are 26 feet wide by 27 feet high, with a cove and central lay-light. The pictures are better lighted in the latter, though the proportion is very ugly.

The building is a dignified little museum both within and without, and the simple plan gives no chance of confusion. Under the main frieze on the exterior are a series of open-work marble panels which ventilate the space between the glass roof and the lay-lights. In spite of these, however, in June the heat in the upper rooms was quite intolerable, and in the hottest season the building is said to be unusable. Evidently, in the Washington climate, such top-lighted buildings require a very special ventilation or cooling system, but this was the only criticism which I heard in connection with the building.

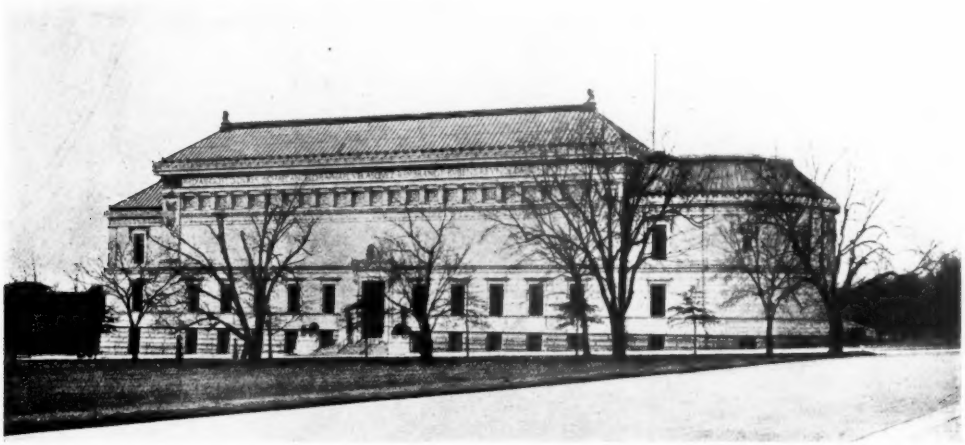

Fig. 16.—The Corcoran Gallery of Art. (Ernest Flagg, architect.)

Albright Art Gallery, Buffalo (Green & Wicks, Buffalo, architects).

This is, architecturally, the most nearly perfect art museum that I visited. It owes its being to the generosity of Mr. Albright, and no money, care, or thought have been spared to make it as complete as possible. It occupies a splendid site in the public park, above the lake, and the lay-out has been most carefully studied, the approaches and terraces being magnificent. The whole is, indeed, very dignified without being bombastic. The style selected is pure Greek, and the same Ionic order is carried through both the interior and exterior, except for the portico, where a larger scale is adopted. But the style is more humanely treated than at the Boston Art Museum, and the whole is more gentle than either the Corcoran Art Gallery or the Chicago Art Institute, while for suitability to its purpose the interior must rank with the Decorative Arts Wing at the Metropolitan. I regret that I only saw it on two grey days, with very brief intervals of sunlight, and was therefore not able to judge very well of the lighting. Without the sun it was entirely excellent; but with it there was some glare, and I noted that the walls of the long galleries were then unequally lighted, the north being very much brighter than the south; this is probably due, in a great measure, to the shallowness of the attic space between lay- and sky-lights, and could be obviated if reflective screens were hung in this space on the east and west line. Few of the dark pictures were glazed, and there was therefore little trouble from reflections, except from the light-coloured floors. The glass ceilings to the galleries, which are constructed of small " T "-iron bars, are not very architectural, although they admit the greatest possible amount of light and the proportions of the smaller rooms are somewhat well-like. The public rooms, all upon one floor above, are nicely varied in size, though all except the sculpture gallery are small. The windows shown upon the plan have all been blocked up;

the gain to the galleries from their use was not thought sufficient to compensate for the lack of wall space. One is inclined to regret this, especially as side-lighted picture galleries are very rare

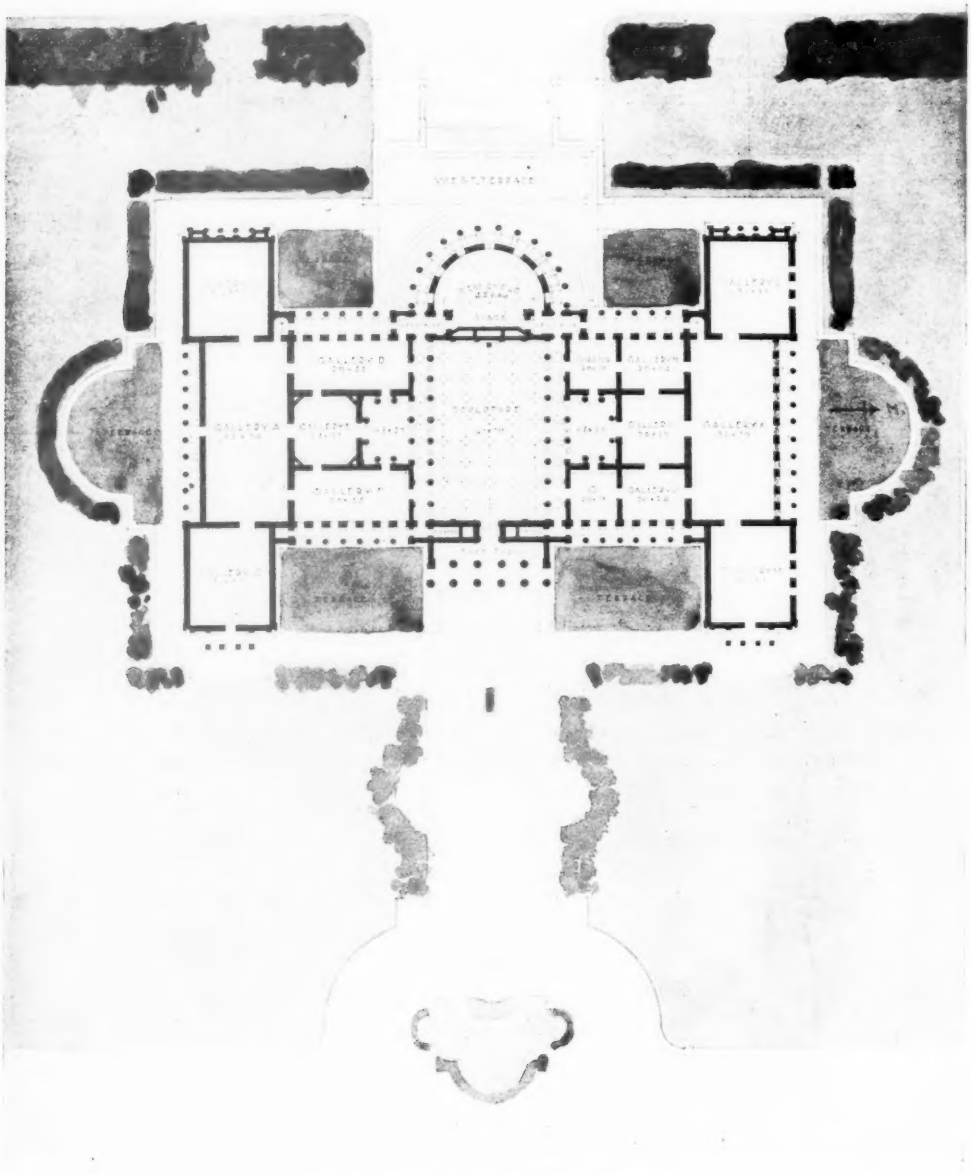

Fig. 17.—Albright Art Gallery, Buffalo

in America, and one tires of the everlasting strong top-light, which is certainly most unsympathetic to many old pictures.

On the other hand, a good deal of valuable wall space could be gained by blocking up some of the doors in the galleries. It will be seen from the plan, that of the thirteen public rooms, two have five doors, four have four, and three three, and as the majority of these are in the centre of the walls, the best positions for pictures are lost, without any gain to the circuit of the museum.

Gallery F was in use as a print room, and one could wish that some special lighting had been provided. Wall cases in a top-lighted room do not offer the best means of display, and side-lighting and wheel screens and desks would probably be more satisfactory.

The finish and interior decoration of the rooms is excellent. White marble is used throughout for columns and architraves, beautiful blue-black or blue-grey marble for the dadoes. The floors are of sanded Tennessee marble, rather dark in the picture galleries, and lighter Tennessee with green inlay in the sculpture court. The walls are covered with various textiles,

Fig. 18.—Albright Art Gallery, Buffalo. (Green & Wicks, architects.)

the most satisfactory being butter-cloth over coloured distemper ; but all the colours are low in tone, and all the cornices, ceilings, &c., cream-coloured.

The exterior is entirely of white marble, with copper roof, and is worthy of the highest praise, although the east front is somewhat spoilt by the addition of rather meaningless caryatid balconies, for which rough sketches were left by St. Gaudens. Had the sculptor lived to see them on the completed building, one feels sure that they would have been considerably altered and improved. Owing to some trouble with his executors, they were, in 1911, being executed in marble by his assistant, without alteration.

A word should be said as to the management and arrangement of the gallery. Money, which has been so unsparingly but so judiciously spent upon the building, is not stinted in this respect. The director makes two journeys a year to Europe to collect pictures for the exhibitions. Quality is more considered than quantity, and the walls are not overcrowded, while the pictures are hung with the greatest possible care and taste.

Altogether, a visit to the institution, housed in its beautiful building, on this wonderful site, and filled with a really admirable collection of modern pictures, is an artistic treat, and an object-lesson of what can be done by a wealthy private citizen in a small town if he is so ably advised and has such great taste as the donor of the Albright Art Gallery at Buffalo.

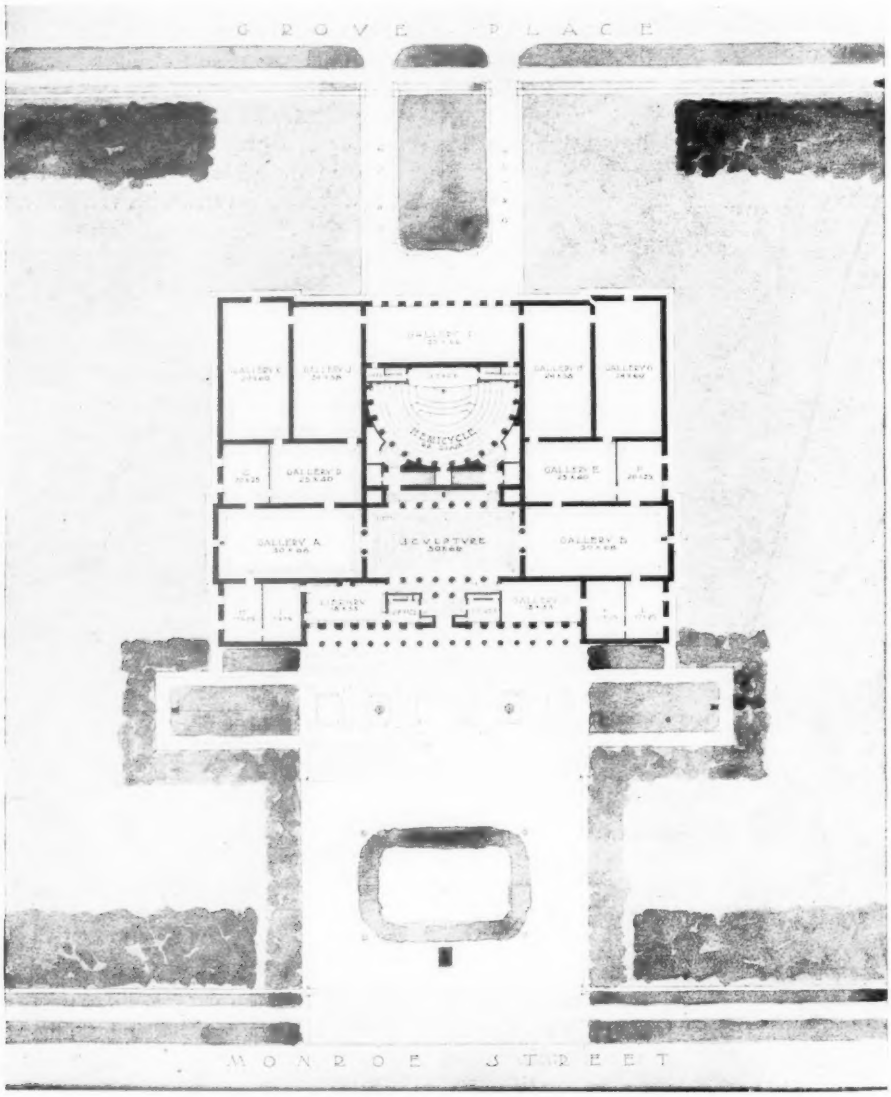

Fig. 19.—Toledo Museum of Art: Plan.

The Toledo Art Gallery (Green & Wicks, Buffalo, architects).

I was induced by the success of the Albright Gallery at Buffalo to retrace my steps to Toledo, to see the new building there by the same architects; and though the Toledo Museum was not quite complete, I did not regret the two nights' journey the visit entailed.

It owes its existence to a private donor, Mr. Libby, and although it is rather smaller than the Buffalo building, and has not such a fine natural site, still, its setting in the small park is made the most of, the lay-out of terraces, steps, and planting having been most carefully studied. Only the front galleries and the hemicycle were in construction; the other portions are to be later additions. The outline of the plan is more simple than that of the Buffalo Gallery, the exterior gaining by this and by the absence of the two orders. The construction is very similar, pavement lights being largely used for the flat portions of the roofs, and the same plain bar ceilings as lay-lights. The photographs, which have been kindly sent me by

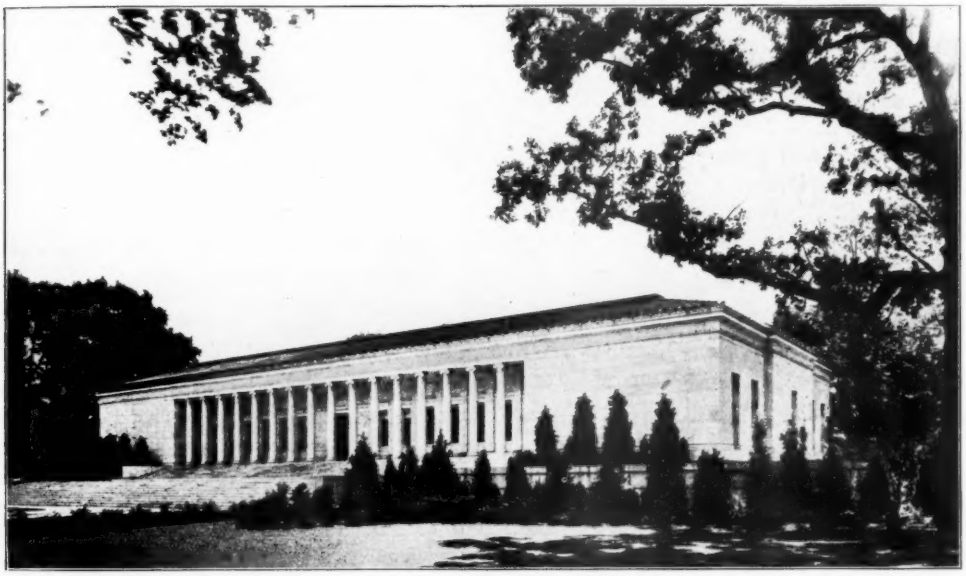

FIG. 20.—TOLEDO ART GALLERY. (Green & Wicks, architects.)

the architects, were taken since my visit, and show the very dignified treatment of the interior and exterior.

MUSEUMS BELONGING TO THE LEARNED OR ARTISTIC SOCIETIES.

At Portland, Maine, a charming little gallery building has been attached to the Sweat Mansion, an old colonial house lately bequeathed to the Art Society of Portland, with the restriction that the principal rooms in the old house should remain exactly as in use at the time of the testator's death. The architect of the new building, John Calvin Stevens, has very successfully adapted the colonial style of the house to the gallery building.

The Hispanic Society's Museum at Audubon Park, New York, is grouped on one terrace with that of the Numismatic Society, and the Geographical Society's building was being added in 1911. This grouping of small museums seems a plan worthy of imitation and opens up possibilities for a great series in a public park, thus allowing close communication, and at the same time saving the public the great weariness of large museums.

The Essex County Institute at Salem has a large chapel-like hall in the rear of its Historical Library in use as a museum. The space under the galleries is screened off to form alcove historical rooms, showing how much can be done in this way without special provision being

made. The garden in the rear of this last building is being converted into an open-air museum. Already an old shoemaker's shop, with all tools and furniture, is on view; and a baker's cottage of two floors, with its great brick chimney, has been moved bodily to the site and was being installed. An old dip-well and similar objects are also in the garden, which is planted with only such flowers as are known to have flourished in the early days of New England. Such open-air museums are sadly few in England; one would like to see them installed in many towns, where they would form sanctuaries for old buildings about to be destroyed, especially if we could import a few American house-movers to teach us the art of rolling buildings from one place to another.

Of the New York Historical Society's Building (Architects, York and Stevens), only the central portion shown upon the plans was completed in 1911, but the fine classic façade looked exceedingly dignified even without the end pavilions. The ground-floor rooms, intended for receptions, were being used as museum galleries, but as the windows have sills only 3 feet from the floor and heads 10 feet from the ceiling, the lighting is not good. The great gallery above is 40 feet high, and as the window sills are 8 feet from the floor and the ceiling barrel-vaulted, the lighting for pictures is excellent; but it seems a pity to have cut up the wall surface by pilasters, although this room was intended as a museum, and the picture galleries are to be built in the wings. The whole will form a very complete home for a learned society, being most carefully thought out.

SCIENCE MUSEUMS.

American Museum of Natural History, New York (Vaux, Caddy, Charles Volz, Trowbridge & Livingstone, architects).

This is the oldest of the Science Museums. A very large scheme for it was prepared by Clement Vaux in 1871. The existing buildings are still but a fragment of this scheme; and though only one block was built under his direction, the additions which have been carried out almost continuously under various architects have adhered somewhat closely to it. Indeed, one is surprised to find the authorities proposing, in the large additions now under consideration, very little change in either size or type of galleries, which are all reminiscent of those at the British Museum of Natural History at South Kensington.

Vaux's plan shows a hollow square of about 700 feet, the north and south sides being carried out as wings. These wings were never built, but the south façade was terminated most unfortunately with circular turret rooms about 30 feet in diameter. One is glad to find that these are not to be repeated at the two remaining angles, for they are surely the worst form of exhibition space, unless, indeed, a gangway could be carried round close to, and under, the windows, and the centre divided by high screens into alcoves.

The interior courts have shared the fate of so many in this type of plan, and have been, or are to be, occupied by large top-lighted halls.

The accepted idea of a natural history museum—namely, of halls about 60 feet wide, lighted on each side, the windows being as large, and the rooms as long and as unimpeded, as possible—may lead to excellent results in classification and arrangement from a scientific standpoint; but surely the effect is one of extraordinary dreariness to the average spectator. The doors are usually placed in the centre of each end, so that the gangway naturally follows the axial line; indeed, in some instances here, the cases—which are placed transversely to the room—are butted right against the walls, allowing no passage between them and the windows. If a person passes along one of these rooms and notes carefully what he has seen or can see from the central aisle, he will find that with desk or table cases he has noticed an enormous area of reflections on glass, and a certain number of small dark objects through the glass. If the room is filled with larger

cases of mammals, &c., he has again seen a great many reflections, and in addition the silhouettes of many animals, and occasionally the side of some, really almost well lighted.

It may be that the visitor is really bent on examining the exhibits and industriously examines the cases in two or three rooms about 200 feet long, by which time, having been occupied in dodging reflections, he is weary and walks hurriedly up the centre aisle of the remaining rooms, gaining nothing thereby but additional fatigue. It is possible that such rooms as the great Egyptian Hall at the old British Museum were the original models in this matter, though the conditions there in a room about 31 feet 6 inches high, with the windows kept 13 feet from the floor, none of the objects being under glass, are entirely different, and we must all admit that this hall is one of the most effective, inspiring, and entirely satisfactory in any museum.

It might be thought that the American Museum of Natural History in particular would, in their new building, endeavour to find a more satisfactory solution of these problems of lighting and arrangement, for in one department they have installed a series of exhibits of wonderful beauty and interest, displayed to the spectator in the most advantageous way possible—namely, the birds' habitat groups in the Ornithological Department.

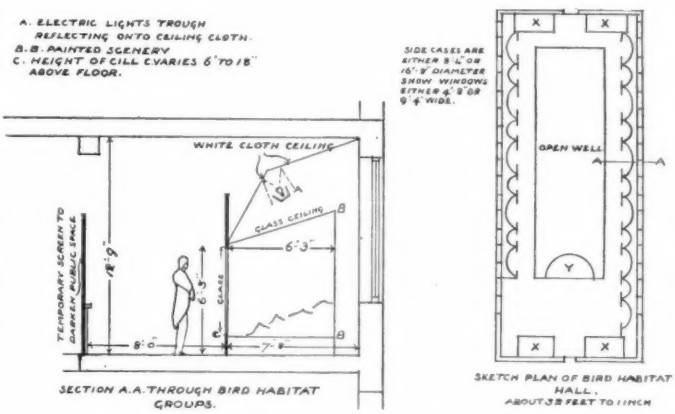
A. ELECTRIC LIGHTS THROUGH REFLECTING ONTO CEILING CLOTH.
B.B. PAINTED SCENERY
C. HEIGHT OF CILL CVARIES 6' TO 18" ABOVE FLOOR.
WHITE CLOTH CEILING
GLASS CEILING
TEMPORARY SCREEN TO DARKEN PUBLIC SIDE
18'-9"
6'-3"
6'-3"
GLASS
8'-0"
7'-6"
SECTION A.A. THROUGH BIRD HABITAT GROUPS.
SIDE CASES ARE EITHER 9'-4" OR 15'-9" DIAMETER SHOW WINDOWS EITHER 4'-8" OR 9'-4" WIDE.
OPEN WELL
SKETCH PLAN OF BIRD HABITAT HALL.
ABOUT 32 FEET TO 1 INCH

Fig. 21.—American Museum of Natural History, New York.

These groups, as will be seen, have been fitted up in the gallery of an existing hall, which did not lend itself to them in any way, and years of experimental work have been necessary to arrive at the present lighting and arrangement, and even now electric light is resorted to for many hours in the day; but, in spite of this, the results are so fine, the backgrounds are painted with such skill, the taxidermy is so naturalistic, and the accessories so well arranged, that one lingers there with delight. The spectator is, as may be seen by the section A A, in comparative darkness and looks through the window at the group, which is well, but softly, lit by reflected light from above. There is no reflection on the glass and no eye-strain.

The museum contains a large number of mammal and anthropological groups, some with and some without backgrounds; and one would hope to see the Ornithological Department's arrangement adopted for these; there seems no reason why special halls should not, in that case, be built for all background group cases.

A natural history museum suggests itself where the general public should be admitted to only a very small synoptic collection of group cases in specially built and lighted alcoves, and adjacent to these, in each department, first the collections for those specially interested, beyond these again, the reserve collections for the actual working student. At present all that is asked for is elasticity of plan, so that temporary divisions may be erected and the grouping of cases varied and screened as required; yet in all these large museums I found hardly any temporary divisions and practically no screening to improve the light.

A specific instance of the kind of installation complained of may, perhaps, be given—namely, the Morgan Collection of minerals. The main room here is about 165 feet by 64 feet, and is proudly said to contain 15,000 specimens, almost all of which are displayed in desk-cases 18 or 13 feet long, and a few pedestal cases close to the central aisle. Through this room the public passes in the circuit of the museum. Now, I suppose that the examination of mineral specimens in about ten double cases, each 18 feet long, would satisfy the ordinary visitor, and, if he had read the labels and endeavoured to obtain any grip of the subject, leave him sufficiently weary. In this room there are between fifty and sixty cases of varying sizes, and it seems almost positive harm to display them to the public, but, as I noticed that the collection was in course of rearrangement, it is hoped that some selection may be made. The ante-room to this Morgan Collection is more interestingly arranged, but as the room is 54 feet wide and 30 feet long on the line of the main axis of the galleries, and the windows at the sides, it will be realised that there is little chance of effective grouping. The evil is, of course, not confined to America. I find that our own British Museum of Natural History has, in its mineral rooms, 46 double desk cases 12 feet long, besides wall and window cases; while the five Greek vase rooms at the British Museum are a barbaric instance of how a superb collection of beautiful objects may, for the general public, defeat its own ends. The cry against surfeiting and bewildering the public is, of course, an old one; I only dwell upon it here because I had hoped that America, with its extraordinary vitality and newer ideas, would have made greater advance along the line of selection and attractive display.

Again there is confusion as to the entrance: a great flight of steps leads to the main door on the first floor, which is not now used, the public entrance being under the steps, and into a lower entrance hall. The building thus loses in dignity, and there is a sense of confusion on coming later into the upper entrance hall. The lower hall, however, is noteworthy, for I found it, on several days, one of the pleasantest rooms in the building. It is elliptical on plan, and is almost entirely lighted by electric pendants. It has a working model of the solar system hung from the ceiling, and an interesting collection of meteorites, which are lighted by individual electric fittings: while a collection of busts of the museum founders decorate the walls, and the floor has brass inlay of the signs of the Zodiac. The installation here shows that large objects can, with electric light, be well and interestingly displayed in an otherwise unlit room.

The basement of the museum is devoted to stores and workshops, and the top floor entirely given up to workrooms, offices, and reserve collections.

The National Museum, Washington (Hornblower & Marshall, architects).

The new building for this, which occupies a magnificent site upon The Mall, was not in full working order at the time of my visit in June 1911. The exterior shows that an effort has been made to combine the requirements of the directors as to lighting with a great monumental structure, and the whole is certainly the most successful large scientific museum building that I visited. The simple lines of the design accentuate its great size (561 feet by 365 feet), and the fine white granite used, with a darker base, has an excellent effect against the background of trees. One regrets that the attic treatment on the south front was not carried right round the building, and the portico in some way more attached to the main lines of the design.

The principal entrance on the south or Mall side was required by the Washington Art Commission, but the north entrance, being nearer the town, is and probably always will be, mostly used. Both the architects and the directors regret this, as the use of the north entrance spoils the plan and arrangement of the museum. The floor area is ten acres, and the director

holds that the public portion, roughly five acres, is as large as a museum should be, but that the remaining five acres are insufficient for storage and workrooms.

The three departments of the museum, anthropology, biology, and geology, are represented upon the plan by the three main galleries, which are united in the rotunda.

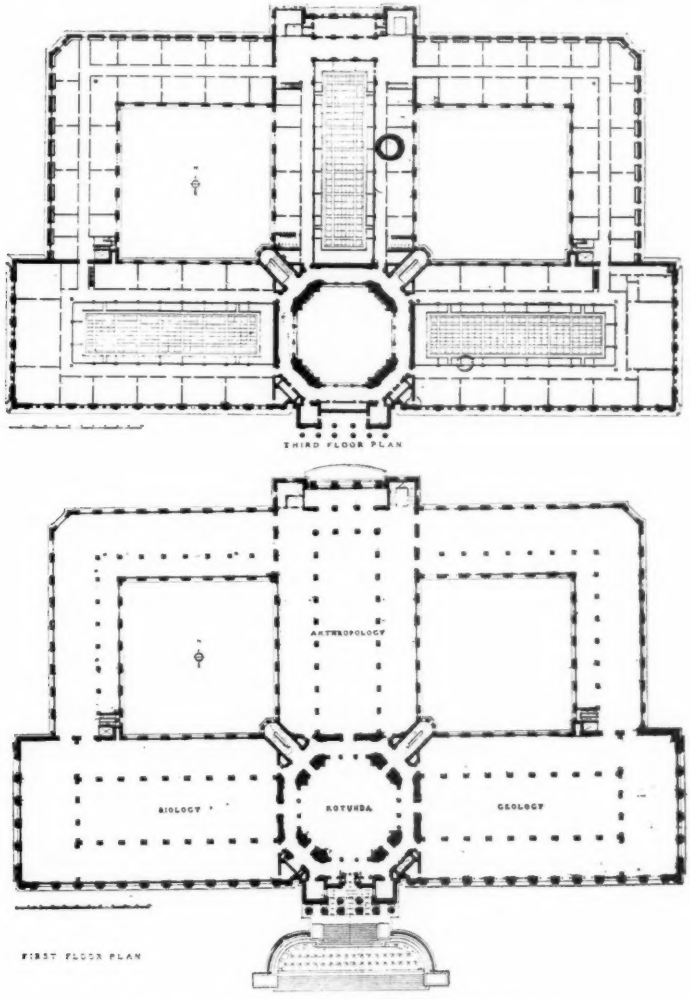

FIG. 22.—NEW NATIONAL MUSEUM, WASHINGTON, D.C.
(Hornblower & Marshall, architects.)

Basement.—Excellent workrooms and offices are provided round the outside of the building; the central portions under the main galleries are used as:—(*a*) boiler and machinery house; (*b*) store for specimens in alcohol; while the block on the north and south axis is very ingeniously made use of by placing the excellent lecture theatre, entirely artificially lighted and ventilated, under the rotunda, and two ranges of small meeting rooms facing the courts, with a "salle des pas perdus," which will be chiefly artificially lighted and may contain some exhibits;

between them, the idea being to use the whole of this central block of the basement for scientific conventions or congresses, leaving the main museum free for the public.

The Top Floor is entirely devoted to offices, laboratories, reserve and students' rooms, and some idea of the ever-increasing needs in this respect may be gained by the fact that already (although the museum was not fully open to the public) these rooms seem almost entirely occupied.

The plan and lighting of the public portion of the museum were studied with a view to providing ample light everywhere with as elastic a plan as possible, and therefore the building was left with piers instead of interior walls. The idea of the unequal planning of the north-west and north-east angle halls was to give wide galleries for the general public, and alcoves, or small rooms, on the court side for visitors more specially interested. This arrangement does not seem to be adhered to in the installation, which is spreading itself over the two unequal galleries in a rather haphazard way.

It was, perhaps, too early to judge of the museum as a whole, as the installation of exhibits was incomplete, but, so far as it went, the effect in the side-lighted rooms was unhappy, and the whole seemed over-lighted, especially as many cases are displayed against the light. Almost

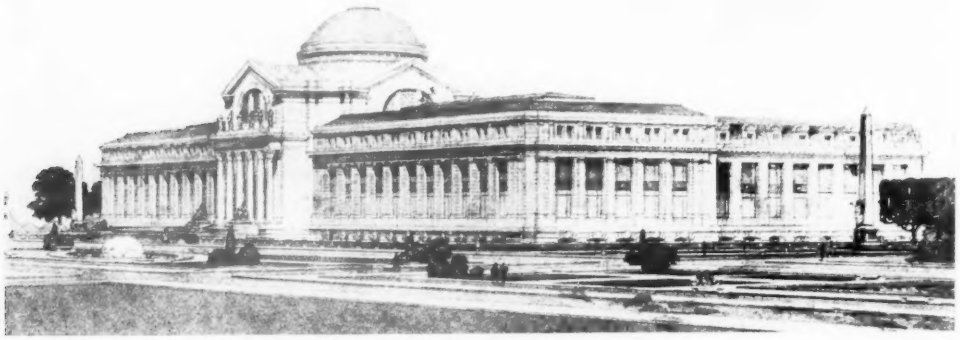

Fig. 23.—National Museum, Washington, D.C.: First Floor Plan.

all the vistas end in windows and consequently dazzle the visitor. The glare is somewhat mitigated by ground glass, and sufficient space has been left in the iron sashes for double glazing if this is found necessary to equalise the temperature, but at present this has not been put in. The upper rooms have windows down to the floor, and the effect of these is very bad.

The Rotunda is much more restfully, though amply lighted, but it seemed that the central sky-light might even here have been omitted with advantage and the very fine lighting effect of Mr. McKim's Columbia Library copied.

In view of the excellent results obtained in other museums from specially-lighted group exhibits with backgrounds, it seems a pity that no special provision has been made in the building for the large number of anthropological and zoological groups, which are at present seen to little advantage.

The central hall is at present screened off to provide hanging space for the nucleus of the National Gallery of Art, a separate building for which it is hoped may shortly be built. These canvas-covered screens are 12 feet high and, of course, mar the effect of the museum, although the central galleries thus formed afford excellent exhibition space for pictures, and the light from the high lay-light, reflected and diffused by the white wall above, is excellent.

THE FIELD MUSEUM OF NATURAL HISTORY, CHICAGO (Charles B. Attwood, architect).

The building in which this museum is housed was designed as the temporary Art Department of the World's Fair. It is of plaster and steel framing, and has long since been past repair. The exterior is certainly a most successful piece of classic design, which might well have been preserved in more permanent form. Its plan would appear to have been, in some degree, the prototype of both the Philadelphia and Boston Museums. The interior is, however, devoid of interest, the endless succession of top-lighted rooms being most dreary and depressing. It seems too large for any museum building, and the collection would tire even the most hardened sightseer, although there are many points in the mounting and arrangement of specimens which are of great interest.

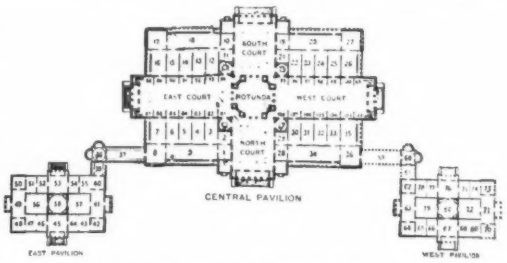

FIG. 24.—FIELD COLUMBIAN MUSEUM, CHICAGO: GROUND FLOOR PLAN.

NEW BUILDING FOR THE FIELD MUSEUM, CHICAGO.

At the time of my visit tenders were being obtained for a new and permanent building, and the plans of this were supplied to me by the architects. It is impossible from these to judge of more than the skeleton of the scheme, though the photographs of the model certainly

FIG. 25.—FIELD COLUMBIAN MUSEUM, CHICAGO: SOUTH FRONT (Charles B. Attwood, architect).

promise an imposing and stately exterior. The main lines are to be upon the gridiron plan, the rectangle being 706 feet by 338 feet, the longer axis being east and west. A great, double-aisled hall, with nave 67 feet wide running up through three stories, bisects the whole from north to south, and four lateral halls 41 feet 7 inches wide join this on each side with the end galleries, which are 48 feet wide. It is not at all clear from the section how the ground floor rooms running east and west are to be lit.

When one thinks of the inadequacy of the lighting of the ground floor passage between the old architectural courts at the Victoria and Albert Museum, which is only 18 feet wide,

one is somewhat amazed to see what appears to be similar lighting, *i.e.* entirely borrowed light from the adjacent top-lighted courts, suggested for halls 41 feet 7 inches wide, and only 21 feet 4 inches high, floor to floor. It would, indeed, be impertinence to offer criticism of a

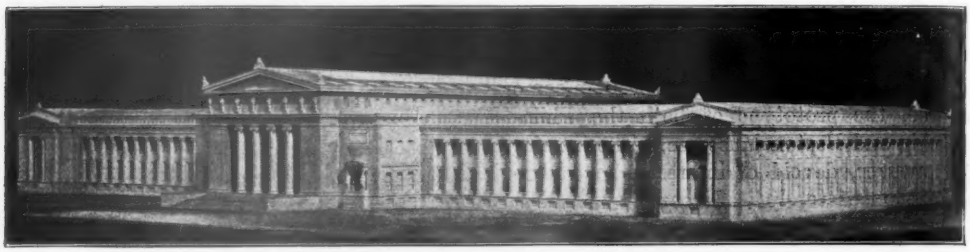

FIG. 26.—NEW FIELD MUSEUM: VIEW OF MODEL

plan worked out by D. H. Burnham & Co., in conjunction with so great a museum director as J. V. Skiff, but one can only hope that the promise of an intensely monotonous interior will not be realised when the actual building is complete. Frankly, one is appalled by the

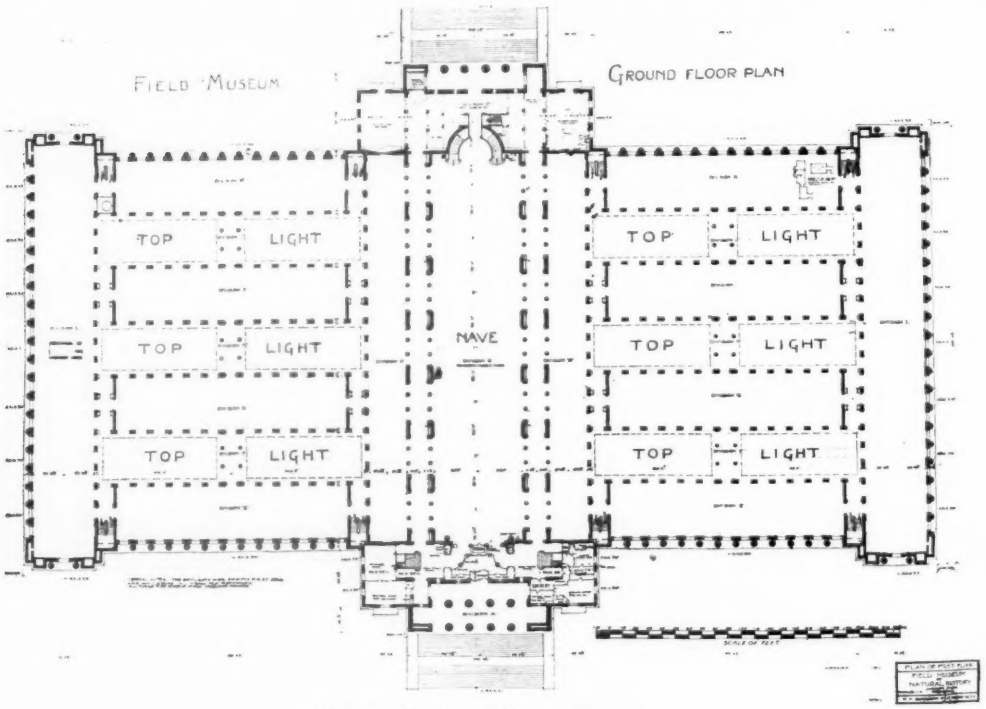

FIG. 27.—NEW FIELD MUSEUM, CHICAGO.
(D. H. Burnham & Co., architects.)

vastness of the floor area which it is apparently proposed to allow the public to wander over, and can only hope that all the internal lateral galleries, on the first floor at least, will by a more merciful generation be closed off for reserve collections.

The second floor is to be given up entirely to workrooms; the basement to workshops, and an auditorium to seat 1,000 persons. The modern American practice is to be followed in so placing this without natural light. The arrangement not only saves valuable lighted space above, but does away with all difficulties as to blinds for screening windows when lanterns are used.

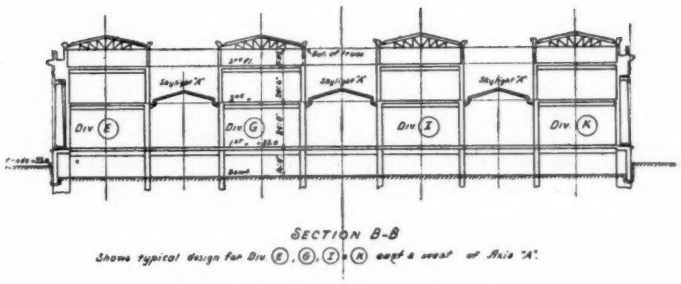

FIG. 28.—NEW FIELD MUSEUM, CHICAGO.

I visited many special museums intended for study collections often belonging to universities. Almost all have been designed rather as small public museums without reference to their particular use. Many have elaborate façades or bombastic approaches, as the Botanical Museum at New York, and have rooms unnecessarily high for the cases they are to contain. Buildings more nearly approaching library stacks seem to be more suitable, either with study rooms adjoining or with their bays utilised for this purpose. One building, the Herbarium at the Arnold Arboretum, Boston, is a successful effort to apply the stack system to a scientific museum. Light is from three sides, and none from the top. There is a well up the centre to allow of supervision and ventilation. The sheet steel cases are 7 feet high upon a hospital skirting and fit tight up to the ceiling and against the external walls, thus forming alcoves, each of which has a work-table and a window so that a student may work at his particular subject without transporting specimens. It has been suggested that collapsible gates should enclose the alcoves so that work might be left on the tables from day to day. The whole arrangement, which is obviously derived from the scholastic libraries, is most workmanlike, and the cleanest and most economical of space that I saw; it might well form a model for many scientific museums where the specimens are of approximately uniform size so that a standard case may be used.

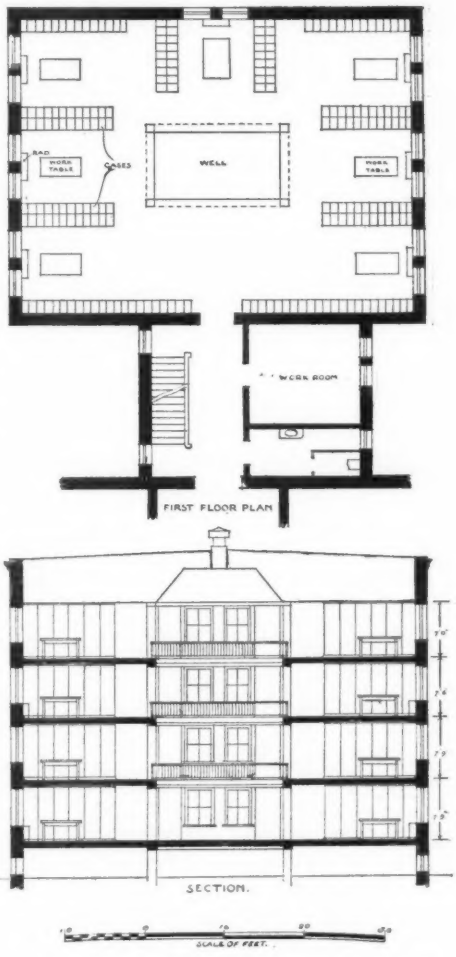

FIG. 29.—HERBARIUM BUILDINGS, ARNOLD ARBORETUM, BOSTON.

Another students' museum, that of the

Medical School at Harvard University, occupies the upper part of the central administration building of the fine new Medical School group (Shepley, Rutan, & Coolidge, architects).

It is almost a crystal palace, for the whole roof and the gallery floor are of glass, and there are windows on three sides; but for a students' museum there is little objection to an excess of light, and these halls, with galleries, do not seem so tiring to the eyes as the comparatively low cross-lighted rooms.

The planning of the whole school is excellent, and I found in it another example of America's generosity in the building of such institutions. Money is cheerfully given not only to make them as entirely efficient as possible, but to complete them with a fine architectural setting of terraces, steps, and gardens.

Aquaria.

In England it has scarcely been the custom to reckon Aquaria among museums, although one is included in the scheme of a large general museum now building, but in New York the aquarium forms part of the general museum system, and there seems no reason why they should not be included as departments of most natural history museums: for while it is not possible to carry on serious marine biological work except at seaside stations, it is possible to form, even in

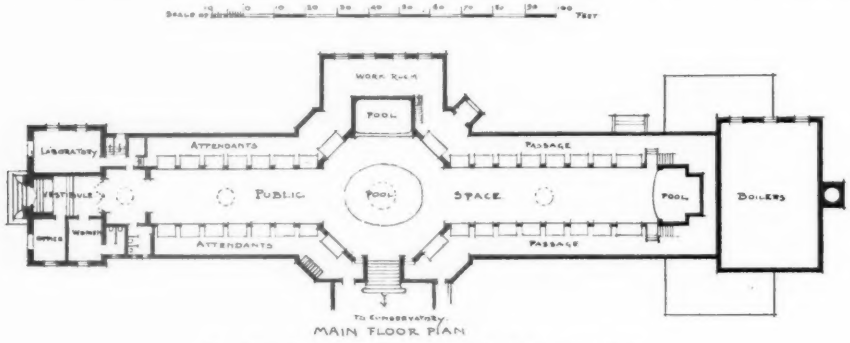

Fig. 30.—Detroit Aquarium (G. D. Mason, architect).

inland towns, such as Detroit, the most interesting collection of salt-water fishes, and maintain them in a healthy condition. Thirty thousand gallons of water were brought from the Atlantic in tanks to Detroit eleven years ago, and this has never been replenished except by the small quantities in which new fish are brought. As to the popularity of aquaria with the public, there can be no question. The aquarium in New York has two million visitors per annum, or more than the total of all the other museums in the city, including the Zoological Gardens. This, no doubt, is due —firstly, to its location at the Battery, namely in a situation akin to, say, the Tower of London, or Westminster Abbey, and secondly, to the superior attraction of animate over inanimate specimens, but also to the very special illumination and method of display that are adopted in aquaria.

At Detroit, a town of only five hundred thousand people, the aquarium has annually upwards of one million visitors, and this notwithstanding the fact that it is more than three miles from the centre of the city. It will be remembered that the visitors to the London Zoological Gardens, last year, for the first time, reached this total; but of course, a charge is made there for admission while the American aquaria are free. These figures should give museum directors seriously to think; and they should ask themselves, especially those in charge of natural history collections, whether methods of display and lighting more akin to those employed in aquaria—for instance, the alcove group system, with overhead lighting—might not add enormously to the

popularity of their collections. Recently visiting two aquaria, the one at Palma, Majorca, the other at Plymouth, England, where the lighting and arrangement of the tanks are not such as we associate with aquaria—that is to say, the tanks are merely placed in big cross- or side-lighted rooms, little effort being made to divert the light from the eyes of the spectator and into, and on to, the water and the fish—I noticed the exhibits were scarcely more interesting than inanimate objects in museums. This confirms my opinion, that the popularity of the American aquaria is due largely to the extraordinary beauty of the exhibits when lighted from above and the comfort in which they can be studied. The public space in aquaria, the officials are agreed, should be only just light enough to allow order to be kept, and pickpockets to be watched; the stronger the light, that can be obtained above the fish tanks, the better.

The New York Aquarium is at present housed in a building erected within the walls of the old Battery, which was not in any way designed for the purpose. The exhibition tanks are on two tiers and follow the lines of the old bastion with passages behind for attendants. The centre is lit from the roof, but the deep galleries over the bottom wall tanks ensure that the public are in shadow, while the tanks are brilliantly lit from above.

The supply, circulation, aeration, and temperature of the water are of primary importance in the management of aquaria, and notes upon these points, obtained from New York and Detroit, are included in my full report. The rebuilding and enlargement of the New York Aquarium has been for some time under consideration, and I am permitted to show to-night a plan and exterior view of the new scheme, which, however, is not yet definitely decided upon. It will be seen that it is proposed to use the walls of the old fort, surmounting them with a colonnade which should form a delightful promenade overlooking the harbour. The old arrangement of two tiers of tanks will be maintained and extended, while the central portion on the upper floors will be devoted to library, lecture theatre, museum, and laboratories. The institution sadly needs a more adequate home, and it is most reassuring to find that it is likely to obtain this, while the wonderful view of New York from the harbour may at the same time gain by the substitution of this dignified colonnaded façade for the sheds which at present crown the Battery.

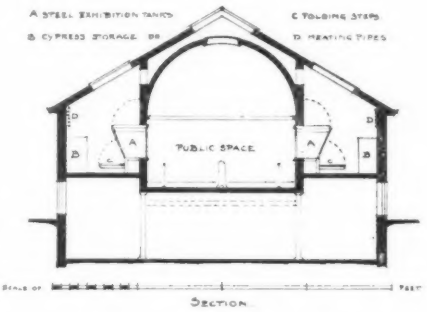

FIG 31.—DETROIT AQUARIUM.

The Detroit Aquarium is situated in the Park in Belle Isle, about three miles from the centre of the city, and was especially built for its purpose in 1904. It adjoins a large conservatory building, and the boiler-house shown upon the plan serves both. The public portion is one long vaulted gallery, about 140 feet long by 17 feet 8 inches wide, with an octagon in the centre. The only light, except that coming through the tanks, is from three circular sky-lights, that in the centre being about 7 feet, the others 4 feet in diameter. This is said to be ample, and the lighting could not be improved, though more floor-space is required. The walls and vault are of plain green glazed bricks, with marble skirting and string, the floor of terrazzo curved up to skirting. The length of the wall tanks varies 2 feet 9 inches to 7 feet 4 inches, but Mr. Conway, the Director, reports that longer tanks up to even 15 feet are needed, though if made as long as this the glass fronts would have to be divided to withstand the water pressure.

Three floor tanks are provided, but the Director disapproves of them, except possibly for seals, holding that the space they occupy is largely wasted, as they are not attractive to the public, who cannot properly see nor be prevented from feeding the fish in them. The building, generally, is very well suited to its purpose, and may be taken as a model for its size.

Canada.

At the end of my tour I visited Ottawa, Toronto, Montreal, and Quebec in search of museums, and though at Montreal I found a good medical museum at the McGill University and a wonderful little collection of Dutch pictures in a very bad gallery in the same town, yet it seemed that Canada has been too occupied with her development in other ways to give great thought to her museum buildings. Indeed, from what I saw of the new National Museum at Ottawa, not then open to the public, I wished that she had waited still longer before embarking on the project.

Before concluding my paper, I should like to thank most warmly and heartily all, whether architects or museum directors, who showed me such extraordinary kindness on my tour. I can only say to any future Bursars thinking of visiting the United States, that the hospitality and eagerness to assist the visitor will astound those who know only our own frigid methods of receiving such inquiries in this country.

If I may have had occasion to criticise the work of some whom I now count as my personal friends, and many who showed me kindness, I hope that they will believe me that such criticism is offered only in the hope of furthering our common cause—the improvement of museums and their buildings.

To the Council of the R.I.B.A. I offer my sincerest thanks for the honour they did me in appointing me Godwin Bursar.

DISCUSSION.

Mr. Reginald Blomfield, A.R.A., *President*, in the Chair.

Professor Beresford Pite [*F.*]: I venture to propose a vote of thanks for this most interesting, important, and valuable Paper. The subject is one of great practical interest, because in these days we all learn by way of museums and galleries, though I am a little doubtful whether the nation at large has yet realised the fact that museums are educational rather than places of amusement. It is obvious to the architect that the fundamental purpose governs the plan. If the museum is a place in which to watch the antics of fish, or the antics of—I was going to say dead birds—we may prepare ourselves for planning in an entirely different manner from the continuous corridor which the evolutionary system of thought demands for any scientific museum. The present scientific habit of looking at the development of all organic matter as a continuous procession towards somewhere seems to settle for ever the plan of any scientific museum: let us have a corridor, starting from nowhere, and leading to somewhere. It is surely apparent that in any scientific study of natural objects nothing but the progressive corridor passing onwards from parent to child will satisfy the normal idea of the plan. The requirements, the conditions of competition, furnished to any architect about to design a complete natural history museum, must be, of course, chronological and encyclopædic, a list of labels, of families with branches, all carefully settled by the director, with every chamber and every spot allocated on those definite scientific principles which are now so obvious, and which reduce the difficulty of planning a scientific museum to nothing. We have absolutely to follow the family tree, and plan on the branch system. It will be as easy to plan a museum as it will be to plan a cathedral, on the accepted ecclesiastical theory of the parent stem and the branches. But when we pass from the scientific to the art museum we have no theory; we have no evolution; we have no parent stem, branches, or definite system of labels to which each specimen is attached. Here the architect is loose and at large, and the director is so far in a fog; and as a result we realise that in almost every art museum we enter in Europe it seems that the planning of art galleries, though one of the most interesting, is one of the most difficult problems. We cannot speak exactly as we would like about our own museums at home. We should be prejudiced—presumedly in their favour, but, I think, more against them—if we set out to compare them with those on the Continent, or those in America which Mr. Brewer has described. But I will only venture to throw out some of the obvious difficulties of the subject in the hope that it may be of use, as this is a discussion of a very practical question. Taking a great general art museum, what lines should guide the architect in planning the portions of the museum to be devoted to architecture? We are at once face to face with a difficulty. Mr. Brewer made it clear in his Paper that he takes objection to the treatment of architectural halls provided for the exhibition of architectural objects; and he pithily

indicates the terror with which we should view a work of Gothic art put against a modern Gothic background. There is much to be said for that point of view, or for the "packing-case or warehouse system" of design, where all the interest is to be concentrated on the object, and none left for the building itself. But I cannot help feeling that that may be pushed too far, and that such general questions as proportion in height, in length, in width, the general effect of what is over your head, the access of light and treatment of roof and ceiling, are architectural considerations which cannot be banished, and which cannot be dealt with satisfactorily without what one must call detailed architectural style. I think the theory can be pushed too far, and I suggest a warning in addition to Mr. Brewer's pungent suggestion on the evils connected with such a system. But when we pass from the architectural contents of such a museum to furniture and objects of domestic use, I cannot help feeling the importance of considering always the provision of rooms related in scale to the objects which they are to contain. Tapestries hung up in series along a vast unfurnished hall are exhibited in wholly unnatural conditions—conditions which offer to the student, at all events to the art student, the least possible amount of assistance and help. And let us bear in mind that artistic objects, and artistic furniture which is made to charm, ought to be exhibited under more or less charming conditions, and that though I may go to a great shop to buy my carpet, I buy it so that I may exhibit it and enjoy it under very different circumstances than those in which I see it in the warehouse. And I feel that very strongly with regard to smaller objects, how they suffer from the disproportion of the circumstances in which they are exhibited: large awkward cases with huge legs and frames swallow up the charming little works of art which are exhibited within them. The more we can get free, with regard to beautiful objects, of these abnormal and unnatural conditions, I think the better, though at the same time one must exercise restraint with regard to creating an artificial atmosphere which is not, in our sense of the word, modern or natural. In the Bavarian Museum at Munich interiors are furnished in a manner which invites you to believe you are in Madame Tussaud's rather than in a place of serious study. The theatrical and histrionic temptation has not been resisted, and the objects have lost their seriousness of purpose. It does not appear that in America this has "caught on"; though one would have anticipated it. If the American school seems to err, it is in too great seriousness and grandiose character, which is out of keeping with the majority of the art objects. At the same time one is grateful to the modern school of American architects for their attachment to a highly monumental type of classic architecture, practised with great refinement and power. But there is the sense that they overpower and impart too heavy and massive an effect to buildings which are designed for the exhibition of such charming works of art as we see around the walls of this room,* and the common bijouterie of personal decoration and personal effects. I should like to remind the Institute of the interesting fact that we had M. Billerey's paper the other evening on Modern French Architecture; and this evening has revealed much of what is going on in America. In this old country we are suffering from pessimism very badly in many directions, and though I have listened with great pleasure and profit to Mr. Brewer to-night, I should like to have listened to a paper by an equally gifted American architect on our modern English museums.

DR. WM. EVANS HOYLE. Director of the Welsh National Museum, in seconding the vote of thanks, said: A few years ago I heard an eminent Museum Director, in the course of a Presidential Address about Museums and Museum Work, define architects as "those enemies of the human race." At that time I was disposed to sympathise with him. But since then I have been on one or two Building Committees, and the experience has led me to believe that in cases where the museum does not meet its requirements, the fault lies not so much with the architect as with the Museum Committee. And for this reason: that they do not tell the architect what it is they want, and they do not allow the administrative staff to have any say in the matter at all. How can you expect to get a reasonably successful building if the men who are going to work in it have not intercourse with the architect from the beginning? I believe that most of the complaints which are made about museum buildings are due to the fact that those who have special knowledge of them are not brought into contact with those who are designing the buildings. Therefore, I venture to say to any of you who are called upon to design a museum, "Insist on getting into contact with the people who are going to work in it." Mr. Brewer, very wisely, I think, divided museum visitors into certain classes. There are the people who come to study—specialists who want to compare their specimens, students of colleges and schools who want to see the objects they are reading about: and besides these there are the ordinary public who want to see something interesting and to receive general impressions. The requirements of the student and the specialist are fairly easily met, from the architectural point of view. He wants to have as many specimens as you can let him have, as close at hand as possible, and a table with a good light, where he can work. To the ordinary visitor you must not give too much detail, but every specimen must be perfect of its kind,

* The speaker is alluding to the pictures belonging to the Exhibition of the Women's Art Society now being held in the R.I.B.A. Galleries.—ED.

must be well selected, must be mounted so that its different characteristics can be adequately seen, and must be labelled in such a way that it will tell its own story and make the visitor understand why it is there and what it teaches. These are some of the preliminary requirements in designing a museum. May I now say a word or two about some of the American museums? I have seen many of those which Mr. Brewer described; many have been built or opened since I was last in America. In the first place, let me say that many of these museums strike me as being altogether too large. I believe that a museum ought not to exceed a certain, rather limited size: for this reason, that when people go to a museum they feel it is their duty to walk all round it, with the result that in the latter half of it, at all events, they see nothing at all, and come away with the well-known museum headache. In fact, from a long experience, I think there are few occupations so fatiguing as museum seeing. Therefore I say the museum should not exceed a certain size, and if the collections outgrow this, you must divide them into sections, and take one section away and put it into a separate building altogether. The American Museum of Natural History I regard as a case in point. It is quite big enough as it is. To see the whole of that Museum involves a good deal of physical exertion, and if it attains the dimensions which Mr. Brewer indicated on the plan, I think the procedure of the average visitor will only result in his being jaded bodily and mentally. Mr. Brewer made some remarks about the Japanese courts at the new Boston Museum of Art, and asked what would be the effect on an educated Japanese of this exhibit. I came across an article not long ago on museums in the East of Asia, and especially on certain museums in Japan. I suppose most of you know that the Japanese method is not to exhibit more than one thing at a time. When a Japanese art connoisseur sees a thing, he likes to examine it very carefully, to take in all its points, and to enjoy it thoroughly. And the consequence is that in the Japanese house there is nothing like a picture gallery: only one picture is put up at a time, one vase, &c. But the Western idea of museums is now getting hold of Japan, and two or three have been built in which Western ideas are being carried out, in some cases with the most disastrous and unsuitable effects. One very wealthy Japanese collector built a museum somewhat on Western lines, but that museum has never been opened, for this reason: that the man would not exhibit to his fellow countrymen anything but the very best, and yet could not bear the idea of putting out his treasures in rows, in cases, to be seen in quantities. The open-air museum is more common in Western Europe than Mr. Brewer seemed to think. It was started in Scandinavia, and I dare say many of you know, or have heard of, the wonderful open-air museum in Stockholm, known as the Skansen, which was due to the genius of Dr. Arthur Hazelius. It is a kind of park of some seventy acres, and the land is an epitome of the country of Sweden, with rocks and shrubs. Here grow, as far as possible, all the plants found in Sweden, and here are cages in which are exhibited all the animals known to inhabit Sweden. Here are specimens of old churches, old farmhouses, old stables, old milestones, old barns, and everything of that sort. The attendants wear the costume of the province from which they come; and any visitor who goes there in the national costume is admitted free of charge. On certain evenings you can hear the old Swedish fiddle and other ancient musical instruments played, and two or three times a week you can see, on a platform, the old country dance of the land by people in proper antique costumes. I am not altogether in accord with Professor Pite. I do not think evolutionary ideas are so simple as he seems to imagine: because if you start from a primitive point you have branches going off in various directions and at various points which cannot yet be defined: and an outline or sketch for a Science Museum on evolutionary lines would be very largely conjectural. If a museum is to be designed on those principles, it seems to me they are just as applicable to an Art Museum as to a Science Museum, because I suppose there has been evolution in art just as there has been in science. You start with some primitive forms of art, and they develop gradually from one into another, and there is a branching out in different directions. Hence I think that idea, if it is ever carried out, will be as applicable to the one case as to the other.

MR. H. HEATHCOTE STATHAM [*F.*] asked leave to offer a suggestion with regard to the relation of the architectural treatment of rooms to their contents. Mr. Brewer had raised a very difficult question: what could one do with a large court where it was desired to exhibit architecture? It was right, he thought, to say that if specimens or casts of architecture were to be exhibited in the centre of the court, it was not desirable to have other architecture round the court. And there was the difficulty suggested by Professor Pite: one might go too far in that direction, and come to too bare a room. The difficulty might be solved, he thought, by considering the relations of sculpture and architecture. If a sculpture gallery was being designed as part of the museum, he did not think they need ever be afraid to put a good architectural surrounding to it. Sculpture always gained by an architectural background. So, when making a room for architectural exhibits, why not borrow something from the idea of the sculpture gallery; instead of making an entirely plain room, or instead of putting architectural features round the room, have a plain wall up to a certain point, and carry a bas-relief sculptured frieze round the upper part of it? There would be nothing to conflict with the architecture, and that bare room which was to be deprecated would be avoided.

Also with regard to picture galleries, there was something to be said as to dividing them out by some architectural feature, such as pilasters, and seeing if one could in any way group the pictures. Sometimes a picture collection was so heterogeneous that it could not be grouped, but they could see how it could be done in the New Salon at Paris, where the wall was divided into sections, and, as far as possible, each man's pictures were grouped. If they could, in a picture gallery, manage to group landscapes, or historical pictures, or pictures of special painters, or of a special class of subjects, he thought an architectural division of the room might very well add to the effect. But his chief object in rising was to make the suggestion with regard to the architectural court, because he thought that was the way out of it. He had listened with great pleasure and admiration to Mr. Brewer's Paper. It was an excellent Paper, not only giving much information, but giving it in an exceedingly interesting manner.

MR. WM. WOODWARD [*F.*] said he thoroughly endorsed the last words which had fallen from Mr. Statham. Mr. Brewer had given them a most interesting Paper on the galleries of America which those who had not had the opportunity of going to that country must regard with considerable profit. He remembered when a Paper was read in that room some few months ago on Art Museums and Picture Galleries, he ventured to say that in his opinion the best-lighted picture gallery in Europe was the Tate Gallery. He regretted extremely, in connection with that, that their Honorary Secretary had had to announce that evening the untimely death of the architect of that structure, their esteemed Fellow, Mr. Sidney R. J. Smith. He remembered that when he expressed this opinion about the Tate Gallery a gentleman immediately behind him remarked that in his opinion the Tate Gallery was the very worst-lighted gallery he had ever seen. That induced him to be rather diffident in what he had to say on the present occasion. If Professor Beresford Pite would allow his grandiloquent phrases in which they all delighted to be concentrated in the one word "scale," he should be thoroughly in accord with him. For example, in regard to the exhibition of domestic furniture: it was true, as the Professor remarked, that for the exhibition of furniture we ought to have a room in proper scale for such objects; we did not want cathedral-like proportions to exhibit a Chippendale chair or a settee in the French Renaissance style. One of the great faults of our modern museums was this utter disregard of scale. The architect seemed to have forgotten altogether the object of the building he was to design, and appeared to think he was employed to design something magnificent, without any regard to the uses to which the building was to be put. It was a complete waste of money; and not only a waste of money, but it robbed the exhibits of their due proportions, and of the interest and value that attached to them. He was with the Professor in that direction, and he was sure if architects would devote themselves more to simplicity of design it would be better. One did not necessarily go into a museum to admire the architecture—though he agreed that the architecture should be decent and respectable; we went for the exhibits, and he trusted that that would always be in the architect's mind. With regard to the lighting of galleries, looking at the pictures round the walls,* it was evident that a different form of lighting must be adopted for different pictures. Take, for example, that blazing spectacle of colour to the right of the platform!—could it be conceived that the lighting necessary for the proper exhibition of that picture could be the same as for, say, an Alma-Tadema? [This particular picture is a sort of "Futurist"-"Cubist"-"Impressionist" production!—W.W.] He hoped Mr. Brewer would devote some part of his reply to the points to which he had drawn attention, and would tell them what he considered was the proper lighting of a picture gallery, based upon what he had seen in his journeyings in America.

MR. FRANCIS HOOPER [*F.*] said he felt sure the Council must feel highly satisfied with their selection of Mr. Brewer for the Godwin Bursary of 1911, and he was looking forward with much interest to the publication of the complete Paper with the illustrations. Previous speakers had alluded to the question of scale in museums; and the scale in which they had seen them on the screen that evening was such as almost to astonish them when they realised the scale to which they were accustomed in the museums in this country. Dr. Hoyle, in alluding to the fact that there was a reasonable limit of scale, had anticipated the remark which he (the speaker) felt he might venture to put before them, for Mr. Brewer seemed rather to suggest that the museum should be a collection of works which could all be seen at a single visit. At any rate, more than one speaker had alluded to the fatigue one experienced in going through a museum. It occurred to him to suggest, as this Paper would be widely read, that it might be worth considering that museums should be so constructed that people could approach one section and another without passing through other sections; so that a man wishing to study pottery, glass, embroidery, or books, could go directly to them, without his attention being distracted by other extremely interesting subjects. He was speaking rather as a visitor to museums, for such work as designing them had not fallen to his lot. The average visitor entered not knowing definitely what he had come to see, and he looked at what he happened to come across first, and perhaps, as Mr. Brewer suggested, he might not reach at all the subject which specially

* See footnote, p. 399.

interested him. If in museum designing the sections were clearly subdivided off, so that the student went to his particular section without exhausting his strength in looking at other subjects, the problem would be overcome. There was one extremely interesting point about the Paper, namely, that most of the plans shown were only partially completed, and his admiration went out to the American people because they did not look upon their work as having finality; they built as they could afford and left it to others to extend. If that were done at home, we should have less difficulty when our museums required extension, and we should have a more definite scheme upon which the whole was to be carried out. There could be no finality in museums, because collections were constantly being bequeathed to them, and hence the collections were constantly being enlarged, and the range and scope of studies becoming more varied. If the world lasted, our cities would be continually increasing, the visitors would become more numerous, and the objects also more numerous. It did not follow that museum buildings should be multiplied, so much as that they should be extended. The museum at Munich which had been alluded to by Professor Pite was, of all the museums he was familiar with, the most captivating, particularly to architects, because exhibits were arranged in chronological order, and in such pleasant surroundings that it was almost impossible to get tired during the visit.

THE PRESIDENT, in putting the vote of thanks, said that when Mr. Brewer's Paper was printed with its illustrations, it would be found to be a valuable contribution to the literature of this important subject. They appreciated highly Mr. Brewer's ability as a designer; but he also had a quality which designers did not always possess—namely, a fine critical faculty. When he went to America he did not appear to have been bowled over at all: he kept his wits well about him, and observed and noted. And he (the President) noticed a good deal of subaudite—he would not say subacid—criticism in his remarks that evening. He should have liked Mr. Brewer to say just what he thought of some of these buildings. But one could not always do the things one would like on these occasions. Mr. Statham had made an interesting point about a possible combination of architecture and sculpture. He (the President) did not quite follow him, because he suggested that sculpture might be treated as a frieze with a fine architectural setting, and he did not grasp whether the sculpture contemplated was old sculpture or modern sculpture; because if it was old sculpture, the architect would have to cut down his architecture to fit it. [Mr. STATHAM: I referred to modern.] That disposed of that point, then. They had had some very shrewd remarks from their old friend Mr. Woodward, whose commonsense and humour were one of the bright lights of the Institute. He drew attention to what was certainly a remarkable picture, and asked pertinently how it was possible to light in the same gallery that picture and one by Alma-Tadema or some other artist with the same finish. And there he touched on a point of very great importance as affecting the whole question of museums, viz. scale in relation to exhibits. Mr. Brewer had spoken of a museum with a floor space of ten acres, but Dr. Hoyle had made him jump in his chair when he talked of an open-air museum of sixty acres, and persons in antique costumes jumping about and playing ancient instruments! There was some valuable and suggestive criticism in Professor Pite's remarks on this question of scale. That was one of the difficult problems with reference to museums: clearly, what would suit one object would not suit another. And the question of environment again came in: perhaps the safest thing to do was not exactly to cut the knot, but to evade it. The dominating question in museums was this question of scale, especially when it came to attempting to exhibit architecture. Much harm had been done by the attempt to subject architecture to museum exhibition, and he was opposed to it because he thought it was impossible to do it. We had some flagrant instances of it in our own museums: a Trajan column, for instance, put in a big room, with totally incongruous surroundings in environment and in suggestion. There were many things which could be exhibited in museums, and it should be recognised also that there were things which were incapable of proper exhibition there. The sooner we realised that fact, and eliminated this large area of matter, the sooner would museums become more intelligent in their management, and more intelligible. A very interesting point cropped up *à propos* of the photographs of the buildings Mr. Brewer had shown them. It was curious and significant that the Americans, who, to all intents and purposes, were not a people with an old tradition compared with ourselves or other European nations, were most diligent in their search for traditional types, and in one of the plans and sections shown he recognised the old friends from the Vitruvius Britannicus. And on the other hand the Germans, who were an old people, though not an old nation, were turning their backs resolutely on the whole tradition. He merely put it to them as a strange result of modern development; he was not offering an opinion upon it. He joined heartily in the thanks to Mr. Brewer. He had made excellent use of the Godwin Bursary, and they would welcome, and value highly, the Paper he had read.

MR. BREWER, in reply, said that there had been some confusion as to his meaning with regard to architectural courts. He was referring to those intended for the largest objects, such as whole

sections of buildings, fronts of houses, &c. Undoubtedly, the proper place for these was out of doors, but if this was impossible, then the largest and simplest halls were required, probably with plain iron and glass roofs, with velaria under, and these halls should be as far as possible from the ordinary galleries so as not to destroy the scale of the normal exhibits. This brought them to the question of scale generally which had been touched on by several of the speakers; undoubtedly the ideal would be to have each room designed in scale with the objects it was to house, but unfortunately there was no finality in museum work, and if a room was intended for furniture some enthusiast in after years might endeavour to put a whale in it; he believed that it was therefore best, unless one was housing a definite and complete collection, to aim at a moderate intermediate scale, and keep the building as simple as possible. At the same time he was not, as one speaker seemed to think, an advocate of the "packing-case room;" indeed, he had shown the view of the Boston Greek Vase Room as an object lesson to be avoided. Several speakers, again, appeared to think that he was not in favour of what he had called stylistic settings, such as the Japanese rooms; whereas he had expressed his delight at these rooms, but had said that such treatment should be very sparingly and carefully employed, and that suggestive rather than facsimile backgrounds should be aimed at. Professor Pite's remarks had made him realise the danger of writing a long Paper and then reading only part of it, for apparently he had said only the unimportant and omitted the important things. It was not true that he was averse to the simple circuit plan, which seemed to him preferable—especially if combined with side rooms for the more interested visitors and for reserve—to the department plan at Boston. The four days he had spent in that museum convinced him that, although the idea was excellent, in practice it led to confusion. The elaborate circuit plans provided did not prevent one from "short-circuiting," and once through the wrong door one got interested in the new department and hopelessly lost. Professor Pite's scheme for a scientific museum planned on the theory of evolution sounded delightfully simple, but he quite agreed with Dr. Hoyle that it would be quite unworkable in practice, though he would much like to see Professor Pite's attempt at such a design.

L.C.C. Art Scholarships. — The London County Council are awarding a large number of art scholarships and exhibitions designed to enable students and artisans to obtain instruction in art and artistic crafts at approved schools or classes. Each scholarship will consist of free education, together with a maintenance grant, if the Council thinks fit, not exceeding £50 per annum. Full particulars are given in the *L.C.C. Scholarships and Training of Teachers' Handbook*, 1913 [P. S. King & Son, Great Smith Street, Westminster].

THE STUDY OF ARCHITECTURE.

By Sir Ernest George, A.R.A. [*F.*].

Address to the R.A. Students, 6th March 1913.

WHEN I was honoured by an invitation to lecture on Architecture I came to realise, and at once to confess, that I possessed no exceptional or expert knowledge upon any one of the numerous subjects to which we have all given our time and thought. I do not claim to solve any difficult problem, or to add to the historical or archæological knowledge of our art. My remarks and suggestions are made to you students before me—you who, with your sound training and in the freshness of your scholarship, are some of you as well informed as your elders. The latter, however, can boast an experience which is not yours, and a long experience is my excuse for offering advice.

My theme is the study of Architecture, and by this I mean the study of buildings existing around us; monuments that the ages have left to us as a precious heritage, the best traditions of which it will be yours to carry on. I do not ignore the wealth we possess in books, from Vitruvius to the time of our own gifted writers, upon our art, but of that wide subject I am not now treating.

The study of all that has been nobly built is the soundest preparation for the future builder or architect. A knowledge of material and its right uses is equally important, showing how form is the outcome of material fitly applied. We have seen mud walls (generally battered) that were not without dignity; and, where forests abounded and timber was the material to hand, our mediæval cities made a fair show with overhanging stories and carved and moulded beams. The Hansa towns with their guildhalls, lofty churches, and fantastic stepped and shaped gables owe much of their character to their brick construction, as do the Lombard and Venetian churches. The columned and trabeated temples of the Egyptians, Greeks, and Romans are the outcome of stone and marble construction as posts and lintels. When these forms are in general acceptance their origin is too often forgotten, and we find Palladio content to have columns with a brick core and plaster surface. We find the like at Pompeii, but that was professedly cheap work—a pleasure resort, quickly built.

Of the student's acquirements the art of drawing is of primary importance. The pencil should express the suggestions of the mind, but the hand must not obtain such fluency as to outrun the brain. Nor must the drawing become of that pretty kind which is attractive in itself, independently of the composition it would set forth. Bad design is sometimes disguised under the cloak of attractive drawing. Geometrical drawing and the recording of detail in the study of the great works of the past will always remain the most

useful effort of the student. To draw and to measure mouldings and details that appeal to you as perfectly satisfactory on some monumental building, is to take a lesson direct from a great Past Master, and by such records is learned the method of obtaining light, shadow, breadth, proportion, and all the qualities that constitute fine architecture. While usefully occupied in such study of detail, you must carefully note the relation of the parts to the mass and to the scale of the building. We have seen students' studies that were a treasure-house of interesting detail, but without evidence of the position and relation of the matter illustrated.

When a free handling of the pencil or brush is acquired, sketching is a fascinating occupation, pleasantly employing the mind without putting a strain upon it; but there is the temptation to turn from the serious and careful contemplation and recording of a building to this lighter use of the hand. It has been a matter of conscience with me not to encourage water-colour sketching by the student architect, knowing its seductive tendencies; nevertheless, much is to be learned by considering a building in relation to its surroundings, as in a pictorial drawing, acquiring thereby a sense of grouping and the values of colour; but such sketching must not trespass on the hours of serious study, it should be a recreation, and enjoyed as such to the full.

To get through your allotted work you have to specialise and limit the number of your interests, giving your mind to one earnest pursuit, avoiding distracting influences. When all is done, your attainments will not exceed your needs as accomplished architects, for you are probably ordinary mortals. We have the record of a giant architect who was at the same time a great painter and sculptor, who also found time to write tender sonnets; but in arranging our curriculum it is best to assume that our coming architects are not all endowed with these versatile powers. That they should be able to model as well as to paint will be to their advantage.

When speaking of colour, how little is that quality generally considered by the average architect, to whom forms or lines seem all sufficient. Perhaps greater purity of form is demanded where colour is absent, for we sometimes find a lack of design and proportion where walls have been regarded first as a field for decoration, as in many frescoed churches. The nave of the famous Duomo of Florence is a conspicuous example, the length being occupied by four ungainly arches where it might have had more, the somewhat shapeless spaces of wall being destined to the glories of colour. Its architecture might have passed unquestioned under the glamour of frescoes by Perugino or Ghirlandaio.

In the earlier churches of the Romanesque, where colour is a dominant feature (as in the various Basilica of Ravenna), there is an ordered plan of decoration, determined by architect and painter working in unison, the Procession of Saints and Martyrs contributing a splendid frieze to an architectural composition, in which colour is not less important than form, and in which walls have been kept flat for colour. The picking out in colour of mouldings in cornices, even when done by true artists, as in Greece, seems to me unsatisfactory and disturbing, upsetting the proportions.

The conditions under which we live are against the attainment of breadth, simplicity, and general conformity. Every material is to hand, and every mode of building that has prevailed in the past is known to us in all its detail and set forth in our architectural text-books, or may be found in our own jottings of travel. May we not unload our minds of some of this cosmopolitan knowledge of facts that are too many for us?

Those who raised the buildings that claim our admiration were, in each period and in each country, working with a common purpose in a style to which we now give a name and a date, and the work was progressive in its development. Those who were occupied with the "Perpendicular" or "Flamboyant" had fine examples beside them of the "Romanesque" and the "Early Pointed," but it did not occur to them to hark back upon these. Nor did they say an ecclesiastical building must be in one style and a civic building in another; they were saved from the jumble that is presented now as the collective result of our later efforts, our architects having chosen for themselves the "style" that suited their idiosyncrasies. The fifty years that I have played my humble part have probably been the most marked by diversities of purpose. We would remember henceforth that *style* is the result of good design, from an artist's hand.

When I was a pupil the enthusiastic writings of John Ruskin were an awakening influence; they opened the eyes of many to seek and to see what was beautiful. Unfortunately, Ruskin, with all his genius, had no sound knowledge of architecture, on which his outlook was prejudiced and narrow. He was instrumental in upsetting all that was left of our national building traditions, and at his bidding we enthusiasts went out to gather and assimilate "brick and marble" architecture and mediævalism in France, Germany, or Flanders, setting most store on things un-English. When this acquired knowledge came to be applied at home a picturesque quality was sometimes attained, but harmony and restraint were not accounted of. The change was accepted as a reaction from the dull and generally mean work of the earlier Victorian epoch.

France had her periods of marked change following one another rapidly, and each with its definite character. What we know as "Louis XII." was succeeded by "Francis I.," that again by "Henri IV.," "Louis XIII.," and "Louis XIV.," all with their strongly marked features. These were the

result of *growth* under the hands of enthusiastic artists and cunning craftsmen, working together in the development of their art, and the work was a virile expression of their minds. The changes from which we have suffered in the last seventy years, and which have driven away any traditions that were left, have been capricious changes—perhaps the copying of some foreign type or the revival of some early period; a transplantation that had no root or power of fruit-bearing.

To draw, to sketch, and to fill note-books used to be regarded as evidence of the earnest student, and I may say that the best among us pursued this course; I have seen no more beautiful or versatile sketching than that of the great architect lately removed from us.

The object of seeing is to absorb what is seen (always with careful selection), and it is for you each individually to decide how you may best retain the impression of fine architecture. Some by a mental process may be able to sit before a building, study its proportions and parts, giving them a place in the memory; while the majority will find the necessity to draw and to measure accurately the work of the Masters from whom they would learn. A great painter has said that in art there is everything to learn and little to be taught, and it is certain that what you learn for yourselves is worth more than all that others can put into you. We believe we know what we want now, and there is a purpose, at least in the Schools, to work on accepted lines, avoiding importations and exotics with their sensational and self-asserting notes, often discordant. Do not let vanity lead you into that which may look clever, while it is of ephemeral interest and antagonistic to its environment. Let not Fashion, which rules in dress, have her mischievous influence on our art, demanding ever the new and the startling.

It is for us to lead and not to be led by the chance wave of popular fancy. We must be deaf to the clamour for new art and a new style of architecture; our aim must be for continual progress and an increase of knowledge and power of design, raising the standard of our work, and leaving no handle for a revolutionary crusade. Continuity is wanted, and no more uprootings and transplantings if there is to be a goodly growth. This knowledge of what is right and fitting should be shared by our craftsmen who would use their minds again and know what mouldings would be suitable though they had not an architect's full-size detail to follow. Working thus on recognised principles and with self-imposed limitations, we may give to our century a character and place in the history of architecture, for the story of the human race and its wanderings has till of late been clearly written in its buildings.

You who are here realise fully that a solid grounding at home and the cultivation of judgment and the critical faculty are necessary before you can profitably go out to choose for yourselves the models and objects for study. The embryo architect is privileged in having a really good claim for a period of travel; a time delightful in the realisation, good to look forward to, and a pleasure to look back upon in after life. Polonius says, "Home-keeping youth have ever homely wit," and it is good for all of you who can do so to go out and see the world before settling down to your place in it. You will give your minds first to such examples of architecture as seem akin to our own needs and ways, such as will show you how the latter may be nobly treated.

With the founding of our British School of Rome the pick of our coming men will have the privilege of residence in that inspiring city, with leisure for thoughtful study, and with fellow artists, sculptors and painters, as their comrades, and I can think of no conditions of life so helpful and inspiring. It is hoped that in the future these our prizemen who have made monumental buildings their special study will be recognised by our Government, and will be entrusted to design official buildings that have too frequently been left to the permanent Surveyor of Departments.

The art of Greece, as found at home and in her Colonies, will claim an early place in your studies. It were good for you to acquire intimacy with the subtleties of work, so apparently simple, from the hands of consummate artists. In France, in Spain, and in Northern Europe you will see the walls and towers of feudal times, and will visit Gothic shrines with their soaring shafts, arches and intricate vaultings showing the knowledge possessed in the "Dark Ages" and expressing the religious fervour of the time, these ranking among the greatest achievements of science in building. You will see cities that have been laid out with stately symmetry, their dignity and studied composition depending on long horizontal lines and calculated balance. In other towns your enthusiasm will be stirred, where clustering towers are crowded upon by tall houses with steep roofs and gables in arcaded streets, forming pictures at every turn. You will realise how many moods art has in her repertoire; there is no recipe for securing beauty, it must be of you and in you. You will note with interest how each country seized, engrafted, and assimilated in its own way the revival of Classic art which was spreading from Italy. We in England were fortunate in having strong men to receive, adapt, and develop the new spirit, throwing their individuality into the manner, their phase of the revived style becoming a national type not less characteristic than that of France or of other lands.

All the scenes of travel will be full of suggestion to you. Is there not a danger of seeing too much and too many sorts? Yet among these you will be able to decide where is the strongest appeal to you personally; in what method you will most happily work in the future.

The pleasant period of travel should not be extended too long or after the freshness and enthusi-

asm has ebbed. The "Prix de Rome" man sets himself some definite work to occupy his two or three years away; but in ordinary cases there is the risk of the student becoming the mere archæologist or dilettante, perhaps returning to find the practical duties of an architect's office irksome. It s not a necessity now to make the Grand Tour. Travelling is easy and rapid, and the busy man may get his impressions of France, Italy, or Holland in separate spells as the spirit leads him.

Having just revisited Egypt I would commend to those who have leisure and the opportunity a pilgrimage to the great monuments of that strange land, broadly speaking the earliest and among the grandest examples of man's efforts at building. These archaic works are immensely impressive. In the temples the ranges of mighty columns are just so far apart as to carry the stone lintels (monoliths) that span them, forming roof and ceiling. There is mystery and majesty in these great pillared halls (pillars sometimes nine feet in diameter) to which the lavish and unstinted use of material contributes, as does the simplicity of construction, the whole being of stone.

It may be discouraging to know that the earliest of these builders, men of almost prehistoric times, had a finer sense of art than those who followed by two thousand years; perhaps the degeneracy was the inevitable result of repetition and imitation, as also of the upset of dynasties. An argument for visiting the Egyptian monuments is that many of these are to be really seen now in their completeness, not, as with other early work, by a mental process of reconstruction from fragments and vestiges. The lines of the purest examples are studied and refined though they have their origin in a phase of thought wholly differing from our own. Repose is the element most valued: it is dominant in the sculpture of Lion, Sphinx, or Man, the latter being seated with hands on knees, or if standing it is with one foot advanced and with the arms folded or at the sides, never in action.

A characteristic of Egyptian work is its permanence. It is strange that for two thousand years the Temple should practically have followed one plan, its entrance placed between mighty pylons leading to an outer court; a colonnaded court generally came between this and the hypostyle hall with its multitude of columns; those of the central nave or aisle rising above the rest, as in a cathedral. Beyond this the sanctuary and mysterious chambers, passages and stairs to the priests' quarters, the whole group being enclosed by a high wall, the walls having over them pictures and splendidly decorative writing incised, and at some periods with modelling within the incised outlines. This enrichment is so judiciously spread over the surface as to give richness and texture to the walls without a loss of breadth. Upon the same plan did Greeks and Romans when in occupation build temples in Egypt. There were changes only of detail and of decoration, in periods when art was at a high level, or when it had ebbed and become mechanical. No rain falls to wear or fret the stones, on which the writings are as fresh now as when they left the chisel.

Of colour decoration the early Egyptians were masters, and wonder is excited by the wealth of drawing and of colour on the walls of sepulchres that were to be sealed up and to be enjoyed only by their silent occupants. In his search for the Beautiful the student in Egypt will find a feast in the splendid mosques of Cairo. The treatment of domes, the gathering in with stalactite corbelling and the bold use of colour, with the fine instinct of the Oriental, will be a profitable study.

Leaving the mosques and bazaars we find a new city of Cairo. Under the British occupation the old order changes and there has been a mushroom growth of official, commercial, and residential building spreading into the desert. While we have been talking at home of "Town Planning" we have been missing a fine opportunity in this great city that is under our care. With few exceptions the buildings are mean and wanting in beauty or distinction. They are the result of financial enterprise without an artist's control or guidance.

This is perhaps a digression, but I am led to speak of the latest impressions I have received. I am not advising that Egypt should be generally included in the lands carefully selected for the architect's educational travel. When time and means allow of a wide outlook, inspiration will be found in contemplating all good modes and types of building that have made the world beautiful and have met the requirements of other times and countries. Look on these as pages in the long history of architectural expression; the spirit that gave them birth should be yours, but do not regard all as suitable subjects for revival and resuscitation. We cannot put the clock back and people our buildings with primitive man. The romance of early days makes a strong appeal to us, but the superfluity of comforts and conveniences that are part of our complicated civilisation are incompatible with mediævalism. There is no returning to sanded or rush-strewn floors, nor must we visit a well when water is wanted. We must accept whatever is good of modern invention, and it will influence and shape our architecture. The diversity of our modern wants and the variety of materials in use, together with the new methods of construction, will supply us with changes enough to call out the personal and individual character that should inspire all good work.

We have talked of foreign travel, and there is interest and excitement in meeting new scenes, hearing strange tongues, and adopting changed modes of life. On the Continent you may find a climate more favourable to outdoor work than our own humid island, but in the latter will be found subject-matter enough for the most exacting seeker. No other country possesses so many beautiful houses with the essential character of

homes—less stately perhaps than some of the palaces of our neighbours, but we have been spared from the revolutionary wreck that has denuded so many foreign chateaux of their treasures. Through Tudor and Georgian periods noble houses have grown up throughout our land, those of each county having their individual characteristics. These will reward the reverent study and contemplation of those who are not restless for wider change.

A new capital for our Indian Empire is the most important architectural enterprise of our time. The result will represent what the ruling race is capable of, and will demonstrate the status of our art. Able men have been chosen to initiate this great work, and it is of intense interest to know how it will be treated. The plans of the city and the schemes of its buildings must be British, but we are told that there exist good traditions of building with the native craftsmen. If so, we would not wish the latter tied down in all particulars to an exact following of details made by an architect's staff. The army of artificers will have more joy in their work and will do it better if allowed some freedom and invention, especially in its decorative execution. Probably they will be given some play for their beautiful Pietra dura, instead of repeating "egg-and-tongue" and "bead-and-reel" enrichments.

I do not believe in "Oriental" design from European hands: we find such work just missing the refinements and qualities on which its charm depends. An attempt to revive an Indian character of design would result in failure, at the same time failing to represent the spirit of our age. A city is not built in a day, and I trust that some of you will be contributing your best to this creation of our twentieth century; it will form a landmark in the progress of Architecture.

Looking back on the past I could wish that I had enjoyed the training that you are receiving. In my day there was no Royal Academy School of Architecture; we have one now with vitality and promise. The solid grounding that you are getting is already bearing good results, as judged by the work you have shown lately, especially in the Medal Competitions. Good training is a fine foundation, but while all taught rules are carefully observed, unless inspiration, imagination, and the personal element come in, your work will be dull and lifeless. To a student George Frederick Watts wrote: "The mere mechanical difficulties are always to be overcome by the means of judicious and continual practice. The elements of the Beautiful and the Elevated are the real difficulties. Master them, and fill the mind with what is great; the hand may tremble, but it must obey the impulse. It is not the knowledge of proportion, it is not the knowledge of the rules of poetry, that will make the Pheidias or the Homer."

REVIEWS.

COLOUR DECORATION.

The Art of Colour Decoration. By John D. Crace, F.S.A. [Hon.A.]. 4o. Lond. 1913. Price 30s. net. [B. T. Batsford, 94 High Holborn, W.C.]

The salient features of this book are the charm of its illustrations and the sympathy of the author with the architect's standpoint in decoration. The illustrations (chiefly from Mr. Crace's studies in Italy) are beautifully reproduced, and are in themselves more educative than acres of written precepts. The author's precepts are, however, apparently the result of a ripe experience; they are most interesting, and I have already found quite practical and useful. There is in the book nothing about the subtle teaching of the ordered tints of the rainbow, no talk of primary and secondary colours, no *ex cathedra* statements as to which should go with which—there is frank admission that in such matters it is the spirit which quickeneth. Mr. Crace is, as I have said, much in sympathy with the architect's standpoint, and insists, with a wealth of example and illustration, that the work of the decorator should be in harmony with the spirit of the building, and that his colouring should emphasize its construction.

Possibly some of us may have had gleams of a similar idea, and in attempting to practise it have fallen into the pit of over-emphasis: we have made our line of ordered pilasters sing too loudly in the wall's harmony. Here Mr. Crace is most helpful. He says:

"As a rule it is desirable to carry through the spaces a little of the same colour which has been used to define the main structure, using it to define or suggest the subordinate structural arrangement which such surfaces will either possess or require." Again: "The Italians when painting some subject in the vaulted roof of a building would assist" [or modify] "the rib of the vaulting by a clearly defined border."

Throughout the book is practical. One learns that the repetition of a decorative feature in a different colour but of the same "value" destroys a dull uniformity without disturbing an essential unity; that timid gilding in thin lines weakens expression; that a flat ceiling has a tendency in appearance to sag, and that the strongest colour should be concentrated at its borders; that modulation of colour, the making of it darker or lighter without losing its quality, may be attained by placing another colour or gilt over the ground in the form of a diaper or pattern; that all colours on a ceiling appear much darker than they do on a palette.

The book gives one to think, and sometimes to question. We read thus:—

"It cannot be too often repeated that in Architecture the instinct which demands stability—*i.e.* structural expression—must be satisfied before the spectator's mind is in a condition to derive coherent delight from any decorative beauty; therefore the pictorial decoration which

floats in undefined space upon a surface of unknown contour is seen under conditions which keep the mind restless and dissatisfied."

And we remember churches in the South where we have realised no "contour," nothing but a haze of golden light, with suggestions of coloured forms and points of silver breaking through the lower gloom: all as vague as incense smoke—yet leaving us neither "restless" nor "dissatisfied."

And are not some buildings best let alone? Were they not designed by the architect without any thought of later colourists? Was not St. Paul's one? At any rate, can we agree when its decoration is given as an instance of sympathetic treatment, "a great and noble work which does justice to an architectural masterpiece"?

And can one altogether agree with this, of the much-abused easel picture?—

"No picture is by itself decorative. . . . . There must be some border or margin so treated that the colouring of the picture is not abruptly separated altogether from that of its surroundings. To produce a truly decorative result, care must be taken that the eye may pass readily beyond the confines of the picture."

Think of two walls, one covered with imaginings by Botticelli, fair women and trees, with pilasters sufficiently pronounced, on to which have, perhaps, strayed leaves and flowers from the woods, a scheme of colour with "modulation," "recalls," "accentuation"; and of another all white, with three great balanced portraits by Van Dyck framed in gold between the columns—is not the last wall just as decorative as the first? Might not some quite architecturally minded souls desire to live under its shelter ever more? But these are matters of taste, and our questionings are only aroused by the lucidness of Mr. Crace's style, obscurity being the only thing which provokes no criticism.

But what of teaching such as this in the chapter on "Imitations"?

"The decorator has in the imitation of marble *when suitably used* a device of very definite value." "A plaster column is in itself unreal." "In such a case it is difficult to see why such concealment should not be itself dealt with imitatively."

One remembers the painted granite of the pilasters responding to the real granite of the columns in the Fitzwilliam Museum at Cambridge, and meditates; and through his meditation comes a voice solemn and sonorous, though, perchance, old-fashioned:—"Those grey arches and quiet aisles under which the sheep of our valleys feed and rest on the turf that has buried their altars; those shapeless heaps, that are not of the earth, which lift our fields into strange and sudden banks of flowers, and stay our mountain streams with stones that are not their own, have other thoughts to ask from us than those of mourning for the rage that despoiled, or the fear that forsook them. It was not the robber, not the fanatic, not the blasphemer, who sealed the destruction that they had wrought; the war, the wrath, the terror, might have worked their worst, and the strong walls would have risen, and the slight pillars have started again from under the hand of the destroyer. But they could not rise out of the ruins of their own violated truth."

In all seriousness, supermen have done and may continue to do such things; but should they be preached to the babes and sucklings of art into whose hands this excellent book may (and will, I hope) fall? HERBERT G. IBBERSON [*F.*].

REINFORCED CONCRETE.

Reinforced Concrete Construction, Advanced Course. By M. T. Cantell. 8o. Lond. 1912. Price 12*s.* 6*d. net.* [*C. & F. N. Spon, Ltd., 57 Haymarket.*]

The present issue is intended as a sequel to the author's elementary course published in 1911, and contains 243 illustrations, including seven folding plates. The practicability of the treatise is seen by the presentation of thirty-one examples fully worked out, dealing with types of structure in which reinforced concrete is generally employed. The ultimate resistance of concrete is averaged to consist of 2,400 lbs. per square inch, and it is shown that if steel reinforcement is stressed to its limit the concrete may be overstressed; while, on the other hand, if the concrete is stressed to its limit, the steel may be understressed and the amount of reinforcement be in excess. Judgment is therefore needed so to proportion the steel to the concrete that their combined efficiency may be satisfactory. Compressive bars may be introduced, but heavy bars or rolled joists buried in concrete do not form what is known as "reinforced concrete." The author states that "too much stress cannot be laid on the necessity of constant expert supervision." It is not sufficient (he adds) to give the workmen special instructions with regard to the mixing and placing and then to inspect the work periodically, as the author has found from practical experience that no matter how good the workmen may be, without constant supervision the best possible result cannot be depended upon. With reinforced concrete works, it must always be borne in mind that a good specification is practically useless unless first-class workmanship is secured. The book deals with columns, piles, walls, retaining-walls, strong-rooms, stairs, roof construction, water-tanks and reservoirs, main sewers and conduits, bunkers, bins, tiles, chimneys, arches, bridges, buildings and foundations, and provides a complete index whereby reference is facilitated.

A. T. WALMISLEY, M.Inst.C.E. [*Hon. A.*].

WHITE LEAD IN PAINTING.

Mr. Noel Heaton is one of those scientific chemists who have made a special study of painters' materials both ancient and modern, and not only of the materials but of the methods of using them. Like Professor Church, he has done

this in sympathy with the artistic results, as well as with regard to the commercial and economic importance of the subject, and has kept his mind free from interested prejudice.

Therefore in the Paper which he read before the Royal Society of Arts on 12th March we have a very valuable statement of the many facts connected with the manufacture and use of white lead, so far as they can be summarised in a lecture, with sufficient detail to give his hearers or readers a very clear idea of the various methods of manufacture, as well as of the purposes which it fulfils.

More than this, he shows its commercial importance, and the immense number of people engaged directly and indirectly in its production, and combats very effectively the exaggerations and distortions of evidence which have lately been so persistently urged against its use in painting.

At the beginning of his Paper he announces this to be its object, and says that he considers "that it (white lead) possesses qualities which render it of exceptional service to the painter, and which far outweigh the disadvantages attendant upon its use." He further expresses the conviction "that any interference with the use of white lead would be a disastrous mistake."

In the Paper, as printed in the *Society of Arts Journal*, Mr. Heaton gives some interesting tables, on pages 464–465, which show in concise form the number of cases of lead poisoning—first, of those engaged in the manufacture of white lead and its use in painting, as compared with such cases in all industries; and secondly, of the mean annual death-rate of painters and plumbers, as compared with that in all industrial occupations. These last he tabulates at all ages from fifteen to sixty-four at intervals of ten years. In view of the alarming outcries of those interested in substitutes, it is reassuring to find that the painters and plumbers, at all ages, appear on the favourable side.

For the whole year 1911 (in which the number was higher than in 1910), the total cases reported —makers and painters included—was 235, of which forty only were serious, this confirming the present writer's experience of more than forty-five years, during which he can remember but one death from lead poisoning and not very many mild cases. He has known hundreds of painters, and those for the most part compared favourably in health and appearance with men in other building trades.

Among well-trained painters the precautions are well understood, and lead poisoning is rare. It is among the untrained men, ignorant of the importance of cleanliness, which they have never practised, and who obtain work as painters, that the real danger of lead poisoning exists. For danger there is in every trade; and it should be the object of the wise to seek and enforce the proper precautions—not to destroy an industry.

J. D. Crace, F.S.A. [*Hon.A.*].

19th March 1913.

9 Conduit Street, London, W., *12th April* 1913.

CHRONICLE.

The Art Standing Committee.

It will be of assistance to the members of the Art Standing Committee if architects and others who may see this notice would kindly inform the Hon. Secretary of that Committee whenever any matter likely to require its action comes to their knowledge. It sometimes happens that from want of information early enough to render action effective, the Committee and the Council of the Institute are compelled to remain passive where timely information might have enabled them to act beneficially.

Prizes and Studentships 1914.

The subjects of competition for the Prizes and Studentships in the gift of the Royal Institute for the year 1914 have now been arranged, and full particulars, together with the conditions of competition, will be found in the pamphlet now on sale at the offices of the Institute, price 3*d*. Attention is particularly drawn to the new Travelling Studentship, to be known as the "Henry Jarvis," tenable for two years at the British School at Rome. Full particulars of the latter are given below.

The Essay Medal and Twenty-Five Guineas, open to British subjects under the age of forty years, will be awarded for the best essay on a subject of architectural interest which may be chosen by each competitor for himself. Competitors will be expected to make a useful contribution to knowledge by accurate research, so that the Essays can be accepted as authoritative statements on the subjects dealt with. Candidates in the Final Examination competing for this Prize may submit their Essay as the thesis required under Division (*F*) of the Programme [see Kalendar, p. 420].

The Measured Drawings Medal and Ten Guineas, open to British subjects under the age of thirty years, will be awarded for the best Measured Drawings made by the competitor of any important building—Classical or Mediæval—either in the United Kingdom or abroad. Candidates may apply to the Records Committee of the Royal Institute for guidance and direction as to subjects.

The Soane Medallion and £100, open to British subjects under the age of thirty years, will be awarded for the best design for an Official Country Residence for a Royal Personage in the United Kingdom, the

design to include the laying out of the grounds. The scheme is to combine the dignity of a residence or palace with the rural character of the private house of a nobleman. The accommodation suggested includes hall and reception rooms, banqueting hall, ball-room, library, chapel, complete private residence, suites of rooms for official and private guests, household and domestic offices, stabling, &c. The winner has to study abroad for at least six months, and must furnish satisfactory evidence of his studies in the form of measured drawings and sketches.

THE PUGIN STUDENTSHIP (SILVER MEDAL AND £40), open to members of the Profession (of all countries) between the ages of eighteen and twenty-five years, and intended for the study of the Mediæval Architecture of Great Britain and Ireland, will be awarded to the competitor who submits the best selection of drawings and testimonials. Special value is attached to perspective sketches done on the spot of an explanatory rather than a pictorial nature, and to measured drawings. The winner has to devote a tour of not less than eight weeks to the study of mediæval architecture, and furnish the Council with an illustrated paper descriptive of his tour, together with his measured drawings, sketches, &c.

THE GODWIN BURSARY (supplemented by the Wimperis Bequest): A SILVER MEDAL AND £65, intended for the study of Modern Architecture Abroad, and open to British subjects without limitation as to age, will be awarded for the best selection of practical working drawings (the competitor's own work), or other evidence of special practical knowledge, and testimonials. The winner is required to spend at least five weeks abroad in the investigation of modern planning and modes of construction, drainage, water supply, ventilation, and other sanitary arrangements, and must, before the 21st December, deliver to the Council an illustrated descriptive report of his researches. He may confine his inquiries and report to one building only if of sufficient importance.

THE OWEN JONES STUDENTSHIP (CERTIFICATE AND £100), founded for the encouragement of the study of architecture, more particularly in respect to Ornament and Coloured Decoration, and open to members of the profession under the age of thirty-five years.—Candidates must submit testimonials, with drawings, some of which must be from existing buildings and from other examples, exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*. Candidates must exhibit acquaintance with the application of colour as a means of architectural expression, not alone by the use of pigments, but also in the juxtaposition and combination of different coloured materials. The winner has to devote a tour of at least six months' duration to the improvement and cultivation of his knowledge of the successful application of colour as a means of architectural expression, and to furnish the Council with an original design in coloured decoration of a prescribed subject, together with an illustrated memoir of his tour.

THE TITE PRIZE (CERTIFICATE AND £30), open to British subjects under the age of thirty years, will be awarded for the best Imaginative Composition in Perspective in the Italian Style for an important Fountain, with which is to be associated large scale sculpture. The architectural treatment must be in accordance with the methods of Palladio, Vignola, Wren, or Chambers. The winner is required to study in Italy for four weeks, and give satisfactory evidence of his studies there in the form of measured drawings and sketches.

THE HENRY JARVIS STUDENTSHIP, value £200 a year, tenable for two years at the new British School at Rome.—Candidates must be British subjects and under the age of thirty at the date of entry for the Final Competition, and must be either Associates or registered Students of the Royal Institute. The competitions for the Studentship will be held in conjunction with the competition for the Scholarship (tenable for three years at the British School at Rome) offered by the Royal Commissioners for the Exhibition of 1851, and will be conducted on the premises of the Royal Institute under the direction of the Faculty of Architecture of the British School at Rome. Candidates must be prepared to go through two competitions, of which the Final will be held in the autumn, about three months after the First Competition. Candidates will be entitled to compete more than once in the First Competition until they have gained the Studentship or are debarred by the age limit. Three months will be allowed for the preparation of designs, reckoned from the date of the publication of the subject with its conditions. From the candidates who have competed in the First Competition the Committee of Examiners will select not more than ten candidates for the Final Competition. The subject for the Final Competition will be set by the Committee of Examiners, and will be announced in the room on the opening of the first sitting of the Competitors. The Competition will begin at 10 A.M. on a Monday morning and continue till 1 P.M. on the Saturday of the week following. Competitors will be required on the first day to make a sketch design, which will be covered with a sheet of tracing paper sealed down in the compartment by the Moderator at the end of the first day. In his finished design the competitor will be required to adhere substantially to the sketch design. The candidate placed highest in the Final Competition will be awarded the Jarvis Studentship, unless he elect to take the Commissioners' Scholarship above referred to. In the latter case the Jarvis Studentship will be awarded to the candidate placed next on the list. The Scholarship and the Studentship will not in any case be awarded to the same candidate.

THE GRISSELL PRIZE (GOLD MEDAL AND TEN GUINEAS), for the encouragement of the study of construction, and open to British subjects who have not been in practice more than ten years, will be awarded for the best Design for a four-story Dock-side Warehouse.

THE ARTHUR CATES PRIZE (FORTY GUINEAS), founded for the promotion of the study of Architecture, more especially in relation to the application of geometry to vaulting, stability of edifices, and design, and open to British subjects who have passed the Institute Final Examination at one sitting. Candidates must submit not less than two sheets comprising studies of subjects of Classical or Renaissance and of Mediæval Architecture, accurately drawn in perspective and shaded by rule, and also detailed studies of a ground vault of any period.

THE ASHPITEL PRIZE (BOOKS VALUE £10), awarded to the student who distinguishes himself most highly in the Final Examination of the current year.

The Admiralty Arch.

Lord Alexander Thynne writes in yesterday's *Times* :—

People who take an interest in the architectural future of London will welcome the growing disposition on the part of the Government to invoke the assistance of an independent committee of experts when they find themselves confronted with an architectural difficulty. Quite recently this course was pursued with signal success in the case of the Regent Street Quadrant. The committee, over which Lord Plymouth presided, have presented a report which in many respects is a model of what such a report should be, and its main recommendations promise to be satisfactory both to the architectural opinion of London and to the business interests involved.

It now appears, from what transpired in the House of Commons last Thursday evening, that the Government are quite prepared to adopt a similar expedient in regard to the Admiralty Arch, and surely there never was a subject more in need of a breath of fresh air from outside. It is associated in the mind of the public with what they regard, quite wrongly, as a silly wrangle between the London County Council and the Government as to who should pay. The financial considerations are, no doubt, important, especially to the present generation, but posterity will be more concerned with the manner in which the approach is treated. What is done within the next few months will be irrevocable; and posterity will have good reason to pass a harsh judgment upon the citizens of to-day if we proceed without taking the best architectural opinion available, for the site is a most important site, and the Arch, whether you like its design or not, a most important edifice.

Furthermore, the actual position of the Arch and the deflection of the axial line have created an architectural problem very difficult, if not wholly impossible, of solution. From time to time alternative suggestions have been propounded by experts and others, and it is obviously too much to expect that the lay mind, even with the help of attendant officials, will be able to decide the right architectural manner of treating the approach, especially when the lay minds concerned may have a not unnatural inclination to do as little as possible for as low a cost as possible.

I therefore hope that a small and wholly independent committee will be appointed, on the same lines as the committee which considered the Quadrant, although not necessarily of the same *personnel*; such a committee could be relied upon to present, without any substantial delay, a practical and sensible report on the architectural aspects of the question, quite irrespective of who should pay the cost, but having due regard to those considerations of economy which are inseparable from any scheme on which public money is to be spent.

Canterbury Cathedral.

Dr. Wace, Dean of Canterbury, is making a further appeal for contributions to the fund he is endeavouring to raise in order to complete the reparation of the towers of Canterbury Cathedral. Of the three towers the great central, or Bell Harry Tower, and the north-west tower have been satisfactorily repaired, and the greater part of the requisite repairs of the Chichele Tower have been executed, the pinnacles in particular, which it had been necessary to take down for safety, being now restored to their former beauty. But £2,000 more is required to complete the reparation of the Chichele Tower, and unless this sum is obtained soon, the works will have to be stopped, and the tower must remain indefinitely in the scaffolding which now surrounds it. In a letter to *The Times* the Dean says :—

I hope it will be sufficient to state the facts in order to move the hearts of some generously-minded people to complete, what I may fairly call, this national duty. When I came here ten years ago the three towers, which are the chief external ornament of the Mother Church of England, were in a state of perilous decay. By an expenditure, up to the present date, of rather more than £30,000, of which the Dean and Chapter have themselves contributed about one-tenth, two of the towers have been thoroughly repaired and made safe for some generations: and it needs only the £2,000 for which we now plead to complete the reparation of the third. Some other reparations will still be necessary, such as that of the pinnacles of the nave and of Becket's Crown. But these can be done gradually, and at my age, perhaps, they may fairly be left to my successors. But I hope I may have the satisfaction of leaving the three towers completed.

Contributions may be sent either to the Dean or to the account of the Cathedral Reparation Fund with the Capital and Counties Bank, Canterbury.

Professor Petrie's Egyptian Collection.

Professor W. M. Flinders Petrie, F.R.S. [*Hon.A.*], who since its foundation in 1892 has occupied the Edwards Chair of Egyptology at University College, London, has offered his Egyptian collection to University College for £5,985. An appeal is now being made on behalf of the College for subscriptions to enable it to acquire this valuable collection, which is stated to be offered to the College substantially at cost price. The option to purchase expires in June, and if University College is not then in a position to accept, it is possible that the collection may find a home elsewhere, and so cease to be available for teaching purposes in London. The sections of pottery, beads, and scarabs are quite unique, and form the essential basis of the practical study of Egyptian archæology. Another important section includes tools and various objects illustrative of the technical arts and processes of ancient Egypt. The objects illustrate glass-making, weaving, stone-working, metal-working, casting, building, and all other arts which were practised in Egypt. Among others may be mentioned an architect's drawing for a shrine, giving the elevation of the front and side. There is also a general collection of statuettes, stone-work, amulets, textiles, metal-work, wood-work, faience, &c., selected for illustrating all varieties of work and all periods. University College was the pioneer in teaching Egyptology in this country, as well as in instituting a systematic training course in this subject. The importance of such a collection as Professor Petrie's in training students in Egyptian archæology is manifest, and it is hoped that funds may speedily be forthcoming to enable the College to purchase this valuable instrument of teaching. Donations may be sent to the Hon. Rupert Guinness, M.P., Treasurer of the Equipment and Endowment Fund, University College, Gower Street, London, W.C.

Irish Architects and the New Art Gallery, Dublin.

The following resolution was unanimously adopted at a meeting of the Council of the Royal Institute of the Architects of Ireland held on the 7th inst.: "That the Council deprecates the apparent intention of the promoters of the new Municipal Art Gallery building to withhold from Irish architects the opportunity of submitting designs. The Council further regrets that it is proposed to associate an Irish architect with Mr. Lutyens. Similar action has prevented Irish architects from exhibiting their skill in design on more than one occasion in recent years. The Council would suggest that an open competition for the design be inaugurated, and that Mr. Lutyens be asked to act as assessor."

OBITUARY.

Sidney Robert James Smith, who died on the 28th March at the age of fifty-five, was elected Associate in 1879, and Fellow in 1891. He was the elder son of Mr. John Smith, of South Lambeth, and served his articles with Mr. Bedborough, of Southampton and London, with whom he remained as assistant for four years. He was afterwards assistant in the office of Messrs. Coe & Robinson, and on Mr. Robinson's death became associated with Mr. Coe in partnership, being jointly responsible with him for the South Devon and East Cornwall Hospital, the Agricultural Hall, Kensington, Holy Trinity Church, Worthing, and other buildings. He started in independent practice in 1879, his first important commission coming from the Lambeth Guardians in the shape of the Norwood Schools, carried out at a cost of some seventy thousand pounds. He was the architect of a number of public libraries in London, including those at Norwood, South Lambeth Road, Brixton, Kennington, Streatham, Balham, Greenwich, Hammersmith: also of the additions to All Saints' Church, South Lambeth, All Saints' Institute, the Cripplegate Polytechnic Institute, Golden Lane: the Library of New Bedford College, Regent's Park, now erecting; concert room and examination hall for the Royal College of Music: the Augustus Harris Memorial Fountain at Drury Lane Theatre, &c. His best known work is the Tate National Gallery of British Art, Millbank, opened by King Edward in July 1897. He was architect also of the Picture Gallery at Streatham for Sir Henry Tate, and of the Tate Memorial. In January 1899 Mr. Smith was appointed architect to the Lambeth Board of Guardians, for whom he carried out a large number of important buildings.

Robert Henry Burden, whose death is announced, was elected a Fellow of the Institute in 1878. Mr. Burden started in practice some fifty-five years ago. He was architect of the workhouse and infirmary, with parochial offices, &c., at Upper Holloway; the Craven Schools and Lecture Hall, Marshall Street, Golden Square; the Model Dwellings, Grosvenor Mews, for the St. George's Association; Schools at Starch Green; South Street Schools, South Audley Street, and numerous villa residences and business premises in various parts of London and suburbs.

John Medland, whose death occurred at the Charter-house on the 14th March, aged seventy-two, was at one time a member of the Institute, having been elected Associate in 1881, and Fellow in 1892; he resigned membership about five years ago. He served his articles with Sir G. Gilbert Scott, and worked with him for many years as assistant. Mr. Medland made the designs for the altars and reredos of the chapel in Queen Square, Bloomsbury, and of St. Katharine's Convent of the Sisters of St. Margaret's, East Grinstead; the restoration and redecoration, with new roof, of St. Stephen's Church, Tredegar Road, Old Ford, E., and All Saints' Church, Buxton Street, Spitalfields, E., together with the oak carving in the chancel; the reparation, with new vestry, redecoration of the sanctuary, carved oak screens in the choir, and marble screen in the chancel, marble font, and carved oak pulpit, &c., St. Peter's Church, Bethnal Green; the altar-cloth, St. Paul's Cathedral; and the memorial, consisting of a richly decorated and enamelled brass tablet, having massive silver studs, surmounted with repoussé silver figures of angels carrying a gold chalice, all set in a moulded black marble frame, supported by carved Devonshire marble corbels, erected seven years ago in Buckerell Church, Honiton, to the memory of the late vicar.

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1912–13, held Monday, 7th April 1913, at 8 p.m.—Present: Mr. Reginald Blomfield, A.R.A., *President*, in the Chair; 28 Fellows (including 10 members of the Council), 25 Associates (including 2 members of the Council), 9 Licentiates, and numerous visitors—the Minutes of the Meeting held 17th March 1913, having been already published, were taken as read and signed as correct.

Mr. E. Guy Dawber, *Vice-President*, acting for the Hon. Secretary, announced the decease of Sidney Robert James Smith and Robert Henry Burden, *Fellows*.

The following Associates attending for the first time since their election were formally admitted by the President—viz. Arthur Stanley George Butler, Edmund Herbert Gibson, and Stanley Philip Schooling.

On the motion of the President the thanks of the Royal Institute were accorded by acclamation to M. Bonnat, Director of the Ecole des Beaux-Arts, and to M. Hulot, for the loan of the latter's *Concours* drawings for the Grand Prix de Rome exhibited at the Institute in connection with M. Billerey's Paper on Modern French Architecture [JOURNAL, 29th March 1913].

Mr. Cecil C. Brewer [*F.*] having read and illustrated by lantern slides a Paper, based on his Report as Godwin Bursar 1911, on AMERICAN MUSEUM BUILDINGS, a discussion ensued, and on the motion of Professor Beresford Pite [*F.*], seconded by Dr. Evans Hoyle, Director of the Welsh National Museum, a vote of thanks was passed to him by acclamation.

The Meeting separated at 10 p.m.